

THIRTY-SIXTH ANNUAL REPORT

BY

THE DIRECTORS

OF

JAMES MURRAY'S ROYAL ASYLUM

FOR LUNATICS,

NEAR PERTH.



JUNE, 1863.

PERTH:

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ANNUAL REPORT

BY THE DIRECTORS OF

JAMES MURRAY'S ROYAL ASYLUM

FOR LUNATICS.

~~~~~  
8th JUNE, 1863.
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It is now the duty of the Directors to submit the Thirty-Sixth Annual Report of the Institution.

At the date of the last Annual Report there were in the House 178 patients—85 males and 93 females. Since then 47 patients have been admitted—24 males and 23 females. The total number of patients under treatment during the year was 225—109 males and 116 females. From this total fall to be subtracted 30 discharges and removals—16 males and 14 females; and 15 deaths—6 males and 9 females. The items of the discharges and removals were 15

recoveries—7 males and 8 females ; 9 discharges or removals *improved*—6 males and 3 females ; and 6 *unimproved*—3 patients of either sex. There thus now remain in the Asylum 180 patients—87 males and 93 females, being 2 more than at the same period last year.

During the past year a considerable expenditure has been made in effecting improvements of different kinds in the Institution, which will contribute to the enjoyment of the patients ; among which may be mentioned the erection of a handsome greenhouse, workshops, and storehouses.

For further particulars in regard to the history and experience of the Institution during the past year, reference is made to the Report by Dr Lindsay, the Physician.

During the past year the Institution has been conducted with a satisfactory measure of success, although in the providence of God it has been deprived of two of its most devoted Directors, John Marshall, Esq. of Rosemount, and Lieutenant-General John Murray Belshes. The Directors earnestly trust that through the Divine blessing this Asylum may long continue to confer important benefits on the community.

WM. PEDDIE, *Chairman.*

# REPORT OF PHYSICIAN

FOR THE YEAR 1862-3.

## CONTENTS.

|                                                                                            | Report. | Appendix |
|--------------------------------------------------------------------------------------------|---------|----------|
|                                                                                            | PAGE.   | PAGE.    |
| Admissions, ...                                                                            | 7       | 2        |
| — in relation to Age and Sex, Married State, &c., ...                                      | ...     | 2        |
| — — Co-existence of Physical Diseases or Defects, ...                                      | 10, 61  | 2, 8     |
| — — Form or Phase of Insanity, ...                                                         | ...     | 2        |
| — — Number of previous attacks, ...                                                        | ...     | 2        |
| — Limitation by over-crowded state of House, ...                                           | 7       | ...      |
| — Refusals of, ...                                                                         | 8       | ...      |
| Æsthetics of the Table, ...                                                                | 20, 58  | ...      |
| Age of the Institution, in relation to the accumulation of the Infirm, and Incurable, ...  | 10, 61  | ...      |
| Amenities of the Pleasure Grounds, ...                                                     | 15-17   | ...      |
| — — Table, ...                                                                             | 19      | ...      |
| Appetite as a Guide to the selection of Food, ...                                          | 33, 70  | ...      |
| — Healthy, and Morbid or Depraved, ...                                                     | 64, 71  | ...      |
| Art, Modern, in its applications to Asylum-Furnishings and Fittings, ..                    | 59      | ...      |
| Asylum-Service, a department of the Public Civil Service, ...                              | 26      | ...      |
| Attendants and Servants, List of, ...                                                      | 20      | ...      |
| — — Attachment to the Institution, ...                                                     | 23      | ...      |
| — — Competition for Trained, ...                                                           | 25      | ...      |
| — — Inadequate remuneration of, ...                                                        | 25      | ...      |
| — — Proportion to the number of Patients, ...                                              | 21      | ...      |
| — — Rewards for long or faithful Service, ...                                              | 22      | ...      |
| — — Excursion to Exhibition of 1862, ...                                                   | 23      | ...      |
| — — Honours to the Dead, ...                                                               | 23      | ...      |
| — — Supernumerary, ...                                                                     | 21      | ...      |
| — — Means of securing a high class of, ...                                                 | 24      | ...      |
| — — I. Increase of Minimum rate of Wages, ...                                              | 24      | ...      |
| — — II. Progressive increase of Wages in proportion to duration and quality of Service,... | 24      | ...      |
| — — III. Premiums for special Service, ...                                                 | 24      | ...      |
| — — IV. Superannuation Allowances, ...                                                     | 23, 25  | ...      |
| Brain-worker, peculiarities of Diet, ...                                                   | 66      | ...      |
| — Contrasted with the Hand-worker, ...                                                     | 66      | ...      |
| Bread, white and brown, their comparative advantages, ...                                  | 52, 53  | ...      |



|                                                                                          | Report. | Appendix |
|------------------------------------------------------------------------------------------|---------|----------|
|                                                                                          | PAGE.   | PAGE.    |
| Breed in Animals analogous to civilisation in Man, ...                                   | 70      | ...      |
| — as a creator of Idiosyncrasies and qualities of nervous organisation, ...              | 69      | ...      |
| Calorific Food, ...                                                                      | 33      | ...      |
| Cocoa, as a Food Proper, ...                                                             | 40      | ...      |
| — as a Substitute for Tea and Coffee, ...                                                | 39      | ...      |
| Confinement in relation to Digestion, ...                                                | 64      | ...      |
| Cookery, in relation to the Nutritiveness, Digestibility, and Palatability of Foods, ... | 56      | ...      |
| — Desirability of Reform in Modern, ...                                                  | 56, 73  | ...      |
| — Errors and Defects of: Popular Prejudices and Practices, ...                           | 57      | ...      |
| — Losses of Nutriment by inefficient, ...                                                | 57      | ...      |
| — Mal-preparation of Tea and Coffee, ...                                                 | 40      | ...      |
| — — — Meat, ...                                                                          | 57      | ...      |
| — — — Vegetables, ...                                                                    | 57      | ...      |
| — Loss of Weight by, ...                                                                 | 30      | 10       |
| Curability of Insanity, ...                                                              | 8       | ...      |
| — An Asylum as a Receptacle for Incurables, ...                                          | 8       | ...      |
| — Proportion of Curable and Incurable, ...                                               | 8       | ...      |
| Deaths: ...                                                                              | 9       | 4        |
| — in relation to Age and Sex, ...                                                        | ...     | 4        |
| — — Form or phase of Insanity, ...                                                       | ...     | 4        |
| — — Duration of Treatment and Residence, ...                                             | ...     | 4        |
| — Causes of, ...                                                                         | 9-10    | ...      |
| — Results of <i>Post Mortem</i> Examination, ...                                         | ...     | 4        |
| Diet, typical, cardinal features of a, constituting its <i>Fitness</i> , ...             | 48, 72  | ...      |
| — Quantity, Quality, and Variety of Food, ...                                            | 48, 72  | ...      |
| — Arrow-root, ...                                                                        | 58      | ...      |
| — Bread, ...                                                                             | 53      | ...      |
| — Bread, Meat, and Butter, ...                                                           | 53      | ...      |
| — Milk, ...                                                                              | 38, 53  | ...      |
| — Porridge and Milk, ...                                                                 | 37      | ...      |
| — Amplitude or Profuseness not a measure of Fitness, ...                                 | 46      | ...      |
| — Economy and Policy of Liberal, ...                                                     | 41      | ...      |
| — Excess of, as a Factor of Disease, ...                                                 | 51      | ...      |
| — General considerations on, ...                                                         | 48, 72  | ...      |
| — In relation to the peculiarities of the Consumer, ...                                  | 59, 67  | ...      |
| — — Different classes of Patients, ...                                                   | 26, 27  | ...      |
| — Popular errors and prejudices; depraved tastes, ...                                    | 37      | ...      |
| — Science and experience at variance in selection of, ...                                | 32      | ...      |
| Dietaries of this Institution, ...                                                       | 35      | 10       |
| — General comparisons, ...                                                               | 45      | ...      |
| — { <i>a.</i> Pauper Classes, ...                                                        | 36, 38  | 10, 28   |
| — — Variations in: Luxuries and Extras, ...                                              | 39, 71  | ...      |
| — I. Patients { <i>b.</i> Intermediate Classes, ...                                      | 39      | 13       |
| — — { <i>c.</i> Higher, ...                                                              | 74      | 15       |
| — — { <i>d.</i> Attendants and Servants, ...                                             | 40, 42  | 18       |
| — — — Peculiarities of, ...                                                              | 42      | ...      |
| — II. Staff { <i>e.</i> Officers, ...                                                    | 43      | 28       |
| — — { <i>f.</i> Physician, ...                                                           | 43      | ...      |
| Dietaries, Public, comparison of those of this Institution with other, ...               | 45, 74  | 24, 25   |
| — — — Army and Navy, &c., ...                                                            | ...     | 24, 25   |
| — — — For Lunatic Wards of Poor-houses in Scotland, ...                                  | 47      | 20, 22   |
| — — — Of the Royal Infirmary of Edinburgh, ...                                           | 46      | 23       |
| — Regulation, their advantages and disadvantages, ...                                    | 52, 73  | ...      |
| — — Comparison of optional and unlimited, ...                                            | 44      | ...      |
| — — Difference between actual Consumpt and Regulation Allowance, ...                     | 51, 71  | 18       |
| — Typical, for the Healthy Sane Adult, ...                                               | 49, 73  | 24, 25   |

|                                                                                                                 | Report. | Appendix |
|-----------------------------------------------------------------------------------------------------------------|---------|----------|
|                                                                                                                 | PAGE.   | PAGE.    |
| Dietaries, Public, Typical, for the Insane, ... ..                                                              | 50, 74  | 24, 25   |
| — — — for the Poor, ... ..                                                                                      | 36, 74  | ...      |
| — — — for the Sick, ... ..                                                                                      | 46, 63  | ...      |
| — — — for the lower and higher Ranks in<br>Society, comparison of, ..                                           | 37      | ...      |
| — For Males and Females, differences between, ...                                                               | 35      | 21       |
| — General propositions anent Public, ... ..                                                                     | 48, 72  | ...      |
| — Pauper, general superiority of, ... ..                                                                        | 44      | ...      |
| <i>Vide Food and Diet.</i>                                                                                      |         |          |
| Dietary Tables, present unsatisfactory form of, ... ..                                                          | 28      | ...      |
| Dietetic Medicines, contrasted with Foods-proper, ... ..                                                        | 35, 59  | ...      |
| — Physiological action of, ... ..                                                                               | 35, 59  | ...      |
| — Stimulants, alteratives, neurotics, ... ..                                                                    | 35      | ...      |
| — Tea, Coffee, Cocoa, ..                                                                                        | 35      | ...      |
| — Condiments, ... ..                                                                                            | 35      | ...      |
| — Substitution of, for Foods-proper, ... ..                                                                     | 73      | ...      |
| Dietetic Luxuries for the Poor, ... ..                                                                          | 71      | ...      |
| — — — Rich, ... ..                                                                                              | 37      | ...      |
| Dietetic Punishments, ... ..                                                                                    | 43      | ...      |
| Digestion, in relation to Diet, ... ..                                                                          | 54      | ...      |
| — — — Insanity, ... ..                                                                                          | 63      | ...      |
| — — — Physical Disease, ... ..                                                                                  | 60      | ...      |
| — Direct derangements of, ... ..                                                                                | 62      | ...      |
| Dining Halls, and Ante-Rooms therewith connected, ... ..                                                        | 20      | ...      |
| Dislike for Food indicative of defective digestive capacity, ... ..                                             | 70      | ...      |
| Exercise, complementary to Diet: an integral feature of Regimen, ... ..                                         | 64      | ...      |
| — Comparison between Muscular and Mental, ... ..                                                                | 66      | ...      |
| — Compulsory, difficulties as to, ... ..                                                                        | 65      | ...      |
| — In relation to Industrial Occupations, ... ..                                                                 | 65      | ...      |
| — — — Recreation, ... ..                                                                                        | 65, 68  | ...      |
| — Systematised, Open-air, ... ..                                                                                | 65      | ...      |
| Experts, Professional, regular or occasional assistance of, ... ..                                              | 10      | ...      |
| — Medical Jurists, ... ..                                                                                       | 13      | ...      |
| — Obstetricians, ... ..                                                                                         | 12      | ...      |
| — Psychologists, ... ..                                                                                         | 13      | ...      |
| — Surgeons, ... ..                                                                                              | 12      | ...      |
| — Comparison between the system of Profes-<br>sional Experts and that of Consulting<br>Medical Officers, ... .. | 13      | ...      |
| — Co-operation of Surgeons and Physicians<br>of Perth, ... ..                                                   | 12      | ...      |
| — — — Family Medical Attendants, ... ..                                                                         | 13      | ...      |
| — — — Professional Consultants spe-<br>cially appointed, ... ..                                                 | 13      | ...      |
| Food, Chemical composition of ordinary articles of, ... ..                                                      | 29, 55  | ...      |
| — Different results of Analysis, ... ..                                                                         | 29      | ...      |
| — Errors of older Analysts, ... ..                                                                              | 29      | ...      |
| — Classification of Constituents of, ... ..                                                                     | 34      | ...      |
| — I. Nitrogenous Constituents, ... ..                                                                           | 32      | ...      |
| — — — Not necessarily Nutritious: Gelatigen-<br>ous series of Foods, ... ..                                     | 32, 58  | ...      |
| — — — As Calorificants, ... ..                                                                                  | 34      | ...      |
| — II. Carboniferous Constituents, ... ..                                                                        | 33      | ...      |
| — — — Starchy series of Foods, ... ..                                                                           | 58      | ...      |
| — III. Mineral Constituents. ... ..                                                                             | 33, 57  | ...      |
| — IV. Water, ... ..                                                                                             | 34      | ...      |
| — Liebig's Theory of, ... ..                                                                                    | 34      | ...      |
| — Proportion of Solid Nutriment in, ... ..                                                                      | 29, 34  | ...      |
| — Standard Table showing, ... ..                                                                                | 30, 31  | ...      |
| — Proportion of Animal and Vegetable Nutriment, ... ..                                                          | 53      | ...      |
| — Animal and Vegetable Foods mutually sub-<br>stitutional, ... ..                                               | 53      | ...      |



|                                                                             | Report. | Appendix |
|-----------------------------------------------------------------------------|---------|----------|
|                                                                             | PAGE.   | PAGE.    |
| Food : Proportion of Animal and Vegetable Nutriment, ...                    | ...     | ...      |
| — Comparisons between purely Animal, purely Vegetable, and mixed Foods, ... | 53      | ...      |
| — Proportion of Nitrogenous and Carboniferous Nutriment, ...                | 47, 50  | 25       |
| — — Nitrogenous and Carboniferous Foods mutually substitutional, ...        | 50      | ...      |
| — Digestibility of, ...                                                     | 54      | ...      |
| — — in relation to comparative purity and fitness, ...                      | 33, 52  | ...      |
| — — Bulk, ...                                                               | 51      | ...      |
| — — mechanical quality, ...                                                 | 33, 52  | ...      |
| — Expensiveness of, in relation to Fitness, Nutritive Power, &c., ...       | 52, 71  | ...      |
| — Foods-proper or necessary, ...                                            | 35      | ...      |
| — — Accessory, ( <i>Vide</i> Dietetic Medicines), ...                       | 59      | ...      |
| — In relation to Work, ...                                                  | 41      | ...      |
| — Intermixture, necessity for, ...                                          | 54, 55  | ...      |
| — Conventional combinations, ...                                            | 55      | ...      |
| — Loss by waste and surplusage, ...                                         | 52      | ...      |
| — Mode of Serving, ...                                                      | 58      | ...      |
| — Nutritive value of, Estimation of, ...                                    | 29      | ...      |
| — — Difficulties in, ...                                                    | 36      | ...      |
| — Peculiarities of, among the Insane, ...                                   | 63      | ...      |
| — Physiological action of, ...                                              | 32      | ...      |
| — Variety in, ...                                                           | 56      | ...      |
| <i>Vide</i> Nutriment, Diet, Dietaries, Dietetic Medicines, Appetite.       |         |          |
| Furniture and Furnishings, additions to and renewals of, ...                | 18      | ...      |
| — Galleries, Parlours, and Bedrooms, ...                                    | 18      | ...      |
| — Kamptulicon, ...                                                          | 18      | ...      |
| — Matting and Carpeting, ...                                                | 18      | ...      |
| — Table Furnishings—(Cutlery, Crockery, Glass-ware, &c.), ...               | 19, 20  | ...      |
| General changes in population during 1862–3, ...                            | 7       | 1        |
| Hand-worker, peculiarities of Diet, ...                                     | 66      | ..       |
| — Comparison with the Brain-worker, ...                                     | 66      | ...      |
| Idiosyncrasies, in relation to Diet, ...                                    | 69      | ...      |
| — in Animals, in their bearings on those of Man, ...                        | 69      | ...      |
| Idle, proportion of the, ...                                                | 69      | ...      |
| Improvements or alterations, ...                                            | 14      | ...      |
| — Annual expenditure on, ...                                                | 14      | ...      |
| — Contemplated, ...                                                         | 14      | ...      |
| — Executed, or in Progress, ...                                             | 14      | ...      |
| — — Farm-yard enclosure, ...                                                | 16      | ...      |
| — — General Drainage operations, ...                                        | 16, 18  | ...      |
| — — Greenhouse, Forcing Frames, Water-tank, ...                             | 17      | ...      |
| — — North Airing Courts, ...                                                | 15      | ...      |
| — — North Entrance, ...                                                     | 15      | ...      |
| — — Ornamental Terrace, ...                                                 | 15      | ...      |
| — — Outhouses, Work-shops, and Store-houses, ...                            | 17      | ...      |
| — — Ventilation of Floors of Galleries, ...                                 | 16      | ...      |
| — — Ventilating Tower, ...                                                  | 15      | ...      |
| — — Water-closets and Sewers, ...                                           | 18      | ...      |
| — — West Airing Court, ...                                                  | 16      | ...      |
| — — Modernisation of interior of building, ...                              | 14      | ...      |
| Individual, Peculiarities of the, in relation to Diet and Digestion, ...    | 59, 67  | ...      |
| Individualisation as a Principle of Dietetic Treatment, ...                 | 60, 71  | ...      |
| Industrial operations, ...                                                  | 18      | 9        |
| — In Garden and Grounds, Farm and Pumps, ...                                | 18      | 9        |
| — Millinery department, &c., ...                                            | ...     | 9        |
| — Workshops, ...                                                            | ...     | 9        |



|                                                                                                            | Report. | Appendix |
|------------------------------------------------------------------------------------------------------------|---------|----------|
|                                                                                                            | PAGE.   | PAGE.    |
| Industrial operations: number of Patients industrially employed,                                           | 68      | 9        |
| — Value of their labour, ... ..                                                                            | ...     | 10       |
| Meat, Chemical Composition of, ... ..                                                                      | 31, 55  | ...      |
| — Comparison of Lean and Fat, ... ..                                                                       | 55      | ...      |
| — Cooking of, ... ..                                                                                       | 57      | ...      |
| — Substitution of, for Bread, ... ..                                                                       | 54      | ...      |
| Mental Labour in relation to Diet, ... ..                                                                  | 66      | ...      |
| — as a Waster of Tissue, ... ..                                                                            | 66      | ...      |
| Mental Anxiety in relation to Digestion, ... ..                                                            | 63      | ...      |
| Mortality, ( <i>Vide Deaths</i> ), ... ..                                                                  | 9       | 4        |
| Muscular Hyperactivity as a feature of Insanity, ... ..                                                    | 65      | ...      |
| — As contrasted with Mental Labour or Exercise, ... ..                                                     | 66      | ...      |
| — Labour as a Waster of Tissue, ... ..                                                                     | 66      | ...      |
| Nervous Organisation, quality of, as modifying Digestion, ... ..                                           | 69      | ...      |
| — Energy, depression or vitiation of, as a cause of Digestive Incapacity, ... ..                           | 62      | ...      |
| — Irritability, prevalent, in relation to Diet, ... ..                                                     | 70      | ...      |
| Nutriment, Minimum necessary for Sustenance of Life, ... ..                                                | 46      | ...      |
| — Average Daily Consumpt by healthy Adult, ... ..                                                          | 46      | ...      |
| — Sufficiency by excess, ... ..                                                                            | 47, 74  | ...      |
| — Waste of, by defective Cookery, ... ..                                                                   | 57      | ...      |
| — <i>Vide Food, and Diet.</i>                                                                              |         |          |
| Nutritiveness, qualities constituting, ... ..                                                              | 48, 72  | ...      |
| — As modified by Cookery, ... ..                                                                           | 56      | ...      |
| — Fallacious, ... ..                                                                                       | 58      | ...      |
| — <i>Vide Diet, Food.</i>                                                                                  |         |          |
| Obituary Table, ( <i>Vide Deaths</i> ), ... ..                                                             | ...     | 4        |
| Occupation (or Labour) in relation to Diet, ( <i>Vide Work</i> ), ... ..                                   | 65      | ...      |
| Ornamentation or Decoration, by Flowers, ... ..                                                            | 17      | ...      |
| — — Mantel-piece Furnishings, ... ..                                                                       | 19      | ...      |
| — — Pictures, Statuettes, Vases, &c. ... ..                                                                | 19      | ...      |
| — — Wardian Cases, ... ..                                                                                  | 19      | ...      |
| Overfeeding, dangers of and from, ... ..                                                                   | 72      | ...      |
| — Disease produced by, ... ..                                                                              | 51      | ...      |
| Pathological Lesions in the Insane, ... ..                                                                 | ...     | 4        |
| Physical Complications of Insanity, ... ..                                                                 | 60, 62  | 8        |
| — Frequency of Physical Infirmary or depraved conditions of Health or Vitality, ... ..                     | 60, 62  | ...      |
| — Parallelism between the Inmates of a Lunatic Asylum and those of a General Hospital or Infirmary, ... .. | 41      | ...      |
| — Prevalent Diseases of the Insane, ... ..                                                                 | 61, 62  | ...      |
| Physiological requirements of system as to Food, ... ..                                                    | 49      | 8        |
| — Modifications by Disease—mental and bodily, ... ..                                                       | 60      | ...      |
| — — Exercise, ... ..                                                                                       | 64      | ...      |
| — — Idiosyncrasy, Habits, &c., ... ..                                                                      | 48, 69  | ...      |
| — — Occupation, ... ..                                                                                     | 49, 65  | ...      |
| Recoveries, ... ..                                                                                         | 8       | ...      |
| — in relation to Age and Sex, Married State, &c., ... ..                                                   | ...     | 3        |
| — — Duration of Insanity prior to admission, ... ..                                                        | ...     | 3        |
| — — Treatment, ... ..                                                                                      | ...     | 3        |
| — — Form or Phase of Insanity, ... ..                                                                      | ...     | 3        |
| Removals, improved, ... ..                                                                                 | 9       | 3        |
| — unimproved, ... ..                                                                                       | 9       | ...      |
| — on Probation, ... ..                                                                                     | 9       | ...      |
| Salubrity of Institution improved by Drainage and other operations, ... ..                                 | 16      | ...      |
| Season and temperature in relation to Diet, ... ..                                                         | 56      | ...      |
| Sedentary occupations — — ... ..                                                                           | 68      | ...      |
| Superannuation allowances, their justice and policy, ... ..                                                | 26, 28  | ...      |
| — Act of Ireland, its operation in Irish Asylums, ... ..                                                   | 27      | ...      |
| — Opinion of Lunacy Commissioners for Ireland, ... ..                                                      | 28      | ...      |

|                                                                                                         | Report.  | Appendix   |
|---------------------------------------------------------------------------------------------------------|----------|------------|
|                                                                                                         | PAGE.    | PAGE.      |
| Superannuation, Extension of, to Scotch Asylums, ... ..                                                 | 27       | ...        |
| — Present defects of Scotch Lunacy Statutes<br>as compared with those of Ireland and<br>England, ... .. | 26       | ...        |
| — In English Asylums, ... ..                                                                            | 27       | ...        |
| Surgical emergencies, ... ..                                                                            | 11       | ...        |
| — Operations, ... ..                                                                                    | 12       | ...        |
| — Instruments and appliances,<br>( <i>Vide</i> Experts.) ... ..                                         | 11       | ...        |
| Tabulation of Public Dietaries, present unsatisfactory mode of,<br>— Improved scheme for, ... ..        | 28<br>73 | ...<br>... |
| Transfers <i>from</i> Asylums and Poorhouses, ... ..                                                    | 8        | ...        |
| — <i>to</i> Do. Do., ... ..                                                                             | 9        | ...        |
| Water, quality of, in relation to Cookery and Diet, ... ..                                              | 57       | ...        |
| Work as a feature of Treatment, ... ..                                                                  | 41, 68   | ...        |
| — in relation to Food, ... ..                                                                           | 41       | ...        |
| — Muscular or Mechanical contrasted with Mental, ... ..                                                 | 66       | ...        |

# REPORT OF PHYSICIAN

FOR THE YEAR 1862-3.

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FROM the circumstance that the *incoming* and *outgoing* patients,—General changes in population. the admissions on the one hand, and the discharges, removals, and deaths, on the other,—during the bygone year have nearly balanced each other, our population stands very much *in statu quo* as compared with the previous year,—the actual figures being 180 patients this, as contrasted with 178 last, year.

The principal changes in the said population during the year 1862-3 may be concisely stated thus. At the date of last annual meeting, there were in the Institution 178 residents, 85 males and 93 females. To these have to be added, in the course of the year that has since elapsed, 47 admissions, 24 males and 23 females; making the total number of inmates during the past year 225, 109 males and 116 females. From this total fall to be subtracted 30 discharges and removals, 16 males and 14 females; and 15 deaths, 6 males and 9 females. The items of the discharges and removals were 15 recoveries, 7 males and 8 females; 9 discharges or removals *improved*, 6 males and 3 females; and 6 *unimproved*, 3 of either sex. There are thus still left resident 180 patients, 87 males and 93 females.

The *Admissions* during the past year exceed those of the previous year by 11. Their numbers have, however, as usual been limited or determined by the vacancies created by discharges, removals, and deaths, as well as by the amount of available space depending on variations in the numbers of the non-pauper classes of patients. Though from time to time, to a certain extent relieved by the transfer to other Limitation by over-crowded state of house. asylums, at the instance of the Directors, of considerable numbers of incurable paupers, as well as by the more ordinary changes in our population, the overcrowded condition of the Establishment, of which we have had cause to complain, more especially during the last five years, has never been materially diminished; for, almost as speedily as vacancies have been created or relief obtained by the measures or causes above-



Refusals of admission.

mentioned, the said vacancies have been filled up by fresh, clamant cases—thus ever necessitating fresh sources or modes of relief. The extent to which our accommodation and resources have proved inadequate to the wants—of the district mainly—may be gathered from the number of *refusals of admission* in 1862, which amounted to 20, 3 in private and 17 in pauper cases. During the last four years there has been an average annual refusal of admission in 20 cases, 4 being private or non-pauper, and 16 pauper patients. From the evils of overcrowding, of deficient accommodation, of inability to meet the demand constantly made on our resources, we have at length, however, the definite prospect of speedy relief in the approaching completion and opening of the Perth District Asylum for paupers at Murthly, to which our entire pauper population, amounting to an average of 100 patients, 50 of either sex, will be drafted probably during the spring or summer of 1864.

Transfers from Asylums and Poor-houses.

Several of the admissions were patients transferred from other asylums or from poor-houses; and these for the most part fall to be added to our yearly increasing accumulation of incurables,—the class which impedes and clogs all the curative machinery of an hospital, which ought to be devoted to active treatment,—the class which is gradually, but inevitably, causing the degeneracy of all our public hospitals for the insane into mere receptacles or retreats for the hopeless. Of our present population there is an average of only from 5 to 8 per cent. of the males, and from 20 to 25 per cent. of the females, or from 15 to 20 per cent. of both sexes, that can be considered curable. Under this category we include such cases as have a prospect of ultimate and permanent recovery; along with those in which we can only expect intermissions of sanity, or temporary and intermittent recovery. These two classes of cases are, however, mostly recent admissions, to which we give the benefit of the most favourable prognosis in the absence of a sufficiently long acquaintance with the patients to warrant or enable us to predicate otherwise or more confidently. In all likelihood, as we have had occasion to indicate in a previous report,\* the proportion of the whole population at any given period resident that will really recover satisfactorily does not exceed *five* per cent.

Relative proportion of curable and incurable.

Recoveries.

The *Recoveries* do not bulk very largely in proportion to the admissions, or to the number of residents. But this arises, on the one hand, from a disposition to *under*, rather than *over*-estimate the number of recoveries; and, on the other, from the class of entrants and residents, a large proportion of whom, as has been already pointed out, are incurable cases. To the tabulated number of recoveries, however, may perhaps be legitimately added certain patients discharged *improved*, whose recovery, in progress at the period of discharge, has

\* 33d Annual Report (1860), page 12.



probably since been completed or consolidated. With one exception, all the patients discharged recovered would appear to have in reality recovered, so far as this can be judged of by the experience of a few months subsequent to discharge. Fully recognizing, however, the difficulty of determining, and the danger of certifying, the reality or permanence—the quality or degree of a recovery, we are, and have been, in the habit of discharging *all* apparently recovered cases, whether private or pauper, *as on probation*, the probation period varying with <sup>Probation removals.</sup> the means or exigencies of the patient, and his relatives or guardians. In all cases supervision and care are recommended for a time: and in individual instances it is in addition counselled that, as a tentative or experimental measure, as well as a means of establishing the recovery and improving the physique, the patient should travel; visit distant friends; indulge in a fallow idleness; resume customary occupations to a limited extent, or entirely alter these or their scene; give up former residences or practices; or act upon and carry out a more specific scheme of future self treatment.

Of the patients discharged or removed *improved* three were <sup>Removals improved.</sup> removed on probation at our instance or suggestion, in order that they might have the benefit of the crucial test of free family country life; while the remainder were removed by their relatives, in some cases with our sanction to probation removal, in others in opposition to, or in despite of, our opinion and advice. Of the patients discharged or removed *unimproved*, three paupers were transferred by the Parochial Board of Perth to the recently opened lunatic wards of the Perth <sup>Removals unimproved.</sup> Poor-house, where we have since visited them, and where they seem comfortably treated and well cared for. Two paupers were transferred to the Montrose Asylum by Parochial Boards of distant parishes at <sup>Transfers to Asylums and Poor-houses.</sup> the instance of the Directors of this Institution, in order to assist in relieving for the time our over-crowded condition, consequent on or produced by the sudden influx of cases, that could not, from the nature of their claims on our accommodation, be refused. The remaining case was a removal by relatives in direct opposition to medical advice.

As contrasted with the *mortality* of the previous year, which was unusually small, that of 1862-3 has been unusually large, larger <sup>Mortality:</sup> indeed than it has been during the last seven years. This, however, arises from causes admitting of easy and satisfactory explanation. There has been no devastating epidemic in operation; mortality has <sup>its causes.</sup> arisen from the ordinary causes of death in an institution, which has reached comparative age, and from certain exceptional causes, which occasionally operate notwithstanding every precaution to guard against them. The Institution has now reached such an age—36 years—that



Accumulation of  
the aged and  
infirm.

its earlier entrants, most of whom were in the vigour of life on admission, have reached, while some have passed, the average span of human existence; and their demise in the natural cycle of life's changes was to be looked for, as the simple result of senility and the diseases or affections to which it is incident. Two deaths were those of patients over 70 years of age; while other five patients were between 60 and 70 years old at the time of decease. One patient had been nearly 35 years a resident in the Institution; a second, 32 years; and a third, 26 years. In all of these cases death was mainly attributable to age; and in all death would probably have occurred at a much earlier period out of an asylum.

Physical compli-  
cations: or co-  
existent diseases.

Several patients were admitted labouring under physical complication or diseases of such a character, or to such degree or extent, that death resulted from these pre-existing affections within various short periods after admission: in two cases within seven days; in other two within ten; in a fifth within six weeks; in a sixth within two and a-half months; in a seventh within seven, and in two others within nine months. In most of these cases the physical diseases were so serious and frequently so complicated that recovery therefrom was almost or altogether impossible; and all that could be effected by medical science and art was to prolong life, in some instances for months or weeks, by careful nursing, and the administration of nutrients and stimulants. In one case there was a combination of vertebral caries, empyema, heart disease, and a cut-throat wound; in a second strangulated femoral hernia, with acute enteritis therefrom resulting, was associated with broncho-pneumonia; in a third acute gastro-enteritis was the result of a dissolute or intemperate life; in a fourth a malignant umbilical tumour, deeply rooted in the abdomen, and also associated with malignant mesenteric and other abdominal tumours, co-existed with apoplexy; in a fifth extensive valvular and other organic disease of the heart co-existed with pneumonia; while in a sixth there was extensive tubercular disease of the lungs, intestines, and other viscera, which had reduced the patient to a state of extreme emaciation and debility prior to admission. In other cases, again, the exhaustion of mania, acute or chronic, was super-added to that of senility. We cannot afford space to go into pathological detail, and must therefore refer for further particulars to our Obituary tables contained in the appendix to this report.

Assistance of  
professional ex-  
perts in special  
cases.

The permissive clause contained in the regulations for the guidance of the Physician, conferring on him the power, at his discretion, of availing himself, in difficult or special cases,—mostly of a surgical nature,—of the assistance of *experts or specialists* from what quarter and of what character soever he may deem fit, has proved a



most valuable one. For months or even years no accident may occur, no emergency arise, no patient require such extraneous assistance. But suddenly contingencies occur, and they occur generally in groups or series, for which the ordinary resources of the Institution are inadequate, and in which the promptest assistance of the highest authorities readily accessible is indispensable. So seldom do casualties occur requiring—for instance—operative interference that it is probably undesirable and unnecessary that an hospital for the insane should possess itself of a complete set of surgical apparatus or instruments, which would imply a very heavy expenditure, and would probably be providing for contingencies which will never happen, or laying in a stock of appliances which, when in the course of years required, will be found antiquated and unsuitable. It would be <sup>Surgical emergencies,</sup> equally inexpedient, however, to be altogether unprovided with a certain kind and amount of surgical necessities, even with this valuable permissive power as to the assistance of professional experts. Emergencies occasionally occur of such a character that there is no time to call in extraneous aid, or that it is unnecessary or inexpedient to do so;—in which case the resident medical staff is called upon for immediate, unhesitating action. In order to provide for actual surgical wants, we have found it necessary to provide within a few <sup>instruments, and appliances.</sup> years such apparatus or instruments as trocars and canulas for hydrocele; tracheotomy tubes; probangs and throat forceps; sets of catheters, of tooth forceps, of operating bistouries; stomach pumps and enema apparatus of various kinds; syringe for the subcutaneous injection of narcotics; trusses for hernias; splints, &c. The isolation of an asylum practitioner; his exclusion from all means of maintaining a manual expertness in such practical arts as surgery or obstetrics—or such specialities as ocular or aural science: his devotion to his own peculiar duties, which consist largely of mere clerk's work, of drudgery of the most harassing and absorbing kind: the dissipation of his time and energies by administrative occupations, render it not only impossible that he can be *au courant* with modern progress in purely professional matters, but lead to the actual loss of his former ability or acquirements as a surgeon, an obstetrician, an oculist, aurist, or dentist. It is not, therefore, to be expected that, while perfecting his experience and ability as an alieniste, as an asylum physician, he should possess *all* the qualifications and discharge with equal efficiency all the functions of a surgical or obstetric operator. Nor, indeed, is it desirable, for many reasons and in many aspects of the question that he should do so. Especially in the case of female complaints, where manual palpation or visual inspection,—where the use of the speculum, or other vaginal or uterine appliances or instru-



Obstetric  
assistance :

its value.

ments are called for, do we deem it *undesirable* that examination should be made, or treatment of a surgical nature carried out, by the resident medical staff. And yet there is every reason to believe that a large amount of nervous and cerebral irritation and disturbance in female patients results from remediable uterine disorders,—disorders requiring the use of the speculum, pessary, sound and bougie. We hold strong convictions that such disorders are not attended to in hospitals for the insane to the extent that is desirable, on account of the obstacles to treatment by the resident medical staff; a state of things that admits of easy remedy by the occasional or regular assistance of obstetric experts. There is no reason why an hospital for the insane should not be on an equal footing with general hospitals in regard to the advantages of the periodical or occasional assistance of the most distinguished professional experts, in addition to the constant and regular services of a resident medical staff. In hospitals for the insane there are frequently, if not always, patients labouring under every form of physical disease; which physical disease in them is not only generally a source or cause of aggravation of the mental disorder, but is by the latter rendered all the more complex, insidious, and difficult of detection and treatment. Nor is it possible that either patients, their friends or the public can have equal confidence in an asylum physician as a alieniste, a surgeon, an accoucheur, a dentist, an oculist, and an aurist. At all events experience tells us that the best means of creating confidence and producing satisfaction in all emergencies not of the most ordinary kind is to confine ourselves to the strict duties of our department, and to hand over all difficult or unusual surgical cases to a skilful surgeon; uterine cases to an obstetrician; dental cases to a dentist, and other cases to their respective specialists.

Surgical opera-  
tions or contin-  
gencies.

Practically during the last five years, it has seldom been necessary to call in extraneous *surgical* aid, the only kind of special professional assistance that has yet been had recourse to. But there have been several casualties, involving immediate or imminent danger to life, the majority of which unfortunately proved fatal, requiring the promptest and most vigorous treatment, demanding operative interference, or at some stage threatening to do so; in which the assistance of experienced surgeons from Perth was at once sought for and promptly afforded. Such casualties include several strangulated or complicated hernias; complicated hydrocele; fractures of the cranium, clavicle, &c.; acute laryngitis; articular and osseous caries; suspected dislocations or fractures; severe bruises leading to phlebitis; or other surgical injuries or affections of a serious character. We would here acknowledge, with gratitude and pleasure, the skill and courtesy, the promptitude and attention of Drs Fraser Thomson and Christie, surgeons to the

Co-operation of  
Surgeons and  
Physicians of  
Perth.



City and County Infirmary, Perth, and of Drs Stirling and White, surgeon and physician in Perth respectively, in several anxious and dangerous or fatal cases in which their assistance was of most material or important service. We have not yet had occasion, nor deemed it expedient, to call in the assistance of the highest class of experts from Edinburgh or other University towns; but the permissive clause to which we have alluded imposes no restriction as to source, remuneration, or character of the extraneous surgical assistance of which we may deem it necessary to avail ourselves. This liberal and practically unlimited permissive power has been, and is, the source of very great comfort and satisfaction to us; experience, however, indicates that it should not be restricted to merely *surgical* or *medical* assistance, but *should embrace every species of professional aid*.

Five years' experience enables us confidently to assert that the modern plan of securing the services of scientific experts in cases of difficulty possesses great advantages over the old system, now universally being given up, of fixed and salaried consulting physicians or surgeons. Firstly, the modern system is infinitely more economical. The expert is paid the usual consultant fee, or such fee as seems proportionate to the nature of his special service. His assistance is required only in rare exceptional cases; hence the expenditure of a few guineas per annum represents the maximum average outlay. Under the old system the consulting medical officer drew a large salary for services, which were generally merely nominal, inasmuch as no emergency or difficulty really calling for aid or advice might happen in the course of a year. Secondly, it is infinitely more satisfactory to all parties,—to the Asylum authorities, the patients and their relatives or guardians, and the public alike. Under the modern system advantage is taken of the knowledge and experience of the highest authorities in the several departments of medicine and surgery; while under the old, the consulting medical officer was usually a general practitioner, specially skilled in no particular department of his profession, whose services in a difficulty, were too often more nominal than real. Another phase or aspect of this subject is, that we give every encouragement to the visits or consultations of the usual family medical attendants of patients, or of physicians or surgeons specially selected by their relatives or guardians. A third class of cases occurs, involving questions at law affecting personal liberty, property, or wills, in which it is necessary to possess a variety of opinion as to the physical state, or bearings of disease, as well as to the sanity or insanity of the individual; and in certain cases of this class we have had the advantage of personal visits by, and the personal opinions of, all the highest authorities,—psychological, medical, surgical, obstetrical,—in Scotland.

Contrast between system of Professional Experts and of "Consulting Medical Officers."

Superior advantages of former system.

Co-operation of Family medical attendants.

Co-operation of Experts in legal cases.



Modernization of  
the Institution.

The Directors have ever been desirous that the Institution should be wanting in no modern appliances or appurtenances, in no conditions, advantages or possessions that can in any way or measure contribute to its efficiency as a curative hospital, or as a comfortable homely retreat for the insane of the middle classes; that can enable it to compete with the best institutions of its class, or with asylums, public or private of all kinds, throughout the kingdom. They have accordingly long had under contemplation certain classes of improvements or alterations, which are necessary to put an Institution, whose age exceeds by upwards of 10 years a quarter of a century, on a par with the most modern erections of its kind. It is their intention to fit it up in accordance with the views of the best authorities, with the most recent advances in science; to supply it with the most approved products of modern art; in a word, thoroughly to modernise it by providing all the arrangements most suitable for its special ends or aims. Hitherto many of these alterations have been rendered impossible by the perennially over-crowded state of the building, which has put it out of our power to empty at any given time a whole gallery or department, so as to enable structural changes to be made, or even minor improvements, such as painting and papering, to be carried out. Not only would operations in densely crowded wards, occupied day and night, be annoying to the tradesman, who could not, under circumstances so unfavourable, be expected to produce the best class of work; but they would be dangerous, or sources of danger and irritation, to the patients, and on this ground alone they have been hitherto abstained from. The opening of the Murthly Asylum will, however, put an end to any further delay; and advantage will at once be taken of the reduction of our population to a minimum,—an opportunity that may never again occur,—by the exodus of our paupers, forthwith to carry out the repairs so necessary or desirable.

Contemplated  
alterations.

Alterations  
already executed.

There are, however, certain other classes of alterations, the carrying out whereof are not attended by the same difficulties; and improvements of this kind have been vigorously engaged in, or prosecuted, to the full extent of our opportunities and to the full limit of our finances. Annually a large proportion of the profits of the establishment, of the fund arising from the excess of revenue or income over expenditure, has been laid out on structural alterations or minor improvements; but the extent and nature of these alterations or improvements is necessarily limited by the amount of the available finances. Hence it is evident that every desirable or essential alteration cannot be made, or improvement added, at once; hence it becomes necessary to do one thing at a time, selecting that which appears for the moment most important. The past year has been

Annual expendi-  
ture on improve-  
ments.

characterised by an unusual extent of structural and other alterations, mostly having a prospective reference to the future of the Institution, consequent on the removal of its pauper residents. The most important of these changes have occurred out of doors, in connection with the airing courts, pleasure-grounds, farm-yard, and out-houses; and these alone have necessitated an expenditure of between £500 and £1000. It is probably unnecessary for us to furnish the minutiae of the improvements that have been made during the bygone year within or without the Institution; but it is perhaps desirable that we should give the items of those which, if not the most important, have been at least the most expensive.

The unseemly ventilating shaft or tower to the north of the <sup>Ventilating tower,</sup> Institution, which, so far as concerns the purpose for which ostensibly it was originally erected, ventilation, has proved utterly useless and unnecessary, and which has served only as a monument of architectural folly and wasteful expenditure, has been taken down; and thereby a material obstacle to a beautiful, varied, and extensive view over the lower plains of the Tay, with the outstretch of the Grampians on either side of classic Dunkeld, and the Shakspeare-famed Birnam—has been removed.

The two northern airing-courts, divided by the ventilating tower <sup>Northern Airing Courts.</sup> in question, whose high walls blocked up entirely, in relation at least to the lower northern galleries of the Institution,—the most densely peopled in the house,—the panorama above referred to; courts which, from the stagnation of air and moisture therein were, by the civil engineer employed to report as to their abolition, denominated, and truly denominated “*Air-tanks*,” which were not only useless, but were from their dark, sombre aspect and their unhealthy atmosphere, a positive sanitary nuisance to the lower departments of the north end of the building,—have been abolished. Their site has been converted into an open ornamental terrace, commanding a magnificent <sup>Ornamental Terrace.</sup> view, with a free healthy northern exposure. This terrace will be laid out with flower parterres and walks, and ornamented with statuary and vases; and it only requires a couple of ornamental fountains to render it one of the most attractive features or portions of our pleasure grounds. This alteration has exposed the northern aspect of the Institution in its lower departments, about which there is now a free circulation of light and air; and this has rendered necessary certain minor changes. Thus it has been desirable to alter the northern <sup>Northern entrance door.</sup> entrance, furnishing it with a new commodious stair-case. The windows of the rooms looking immediately out on the terrace referred to, which are mostly dormitories, will be provided with curtains, blinds, and other furnishings, or ornaments; and these will impart



to this aspect of the house a more clothed and comfortable or homelike appearance than it at present possesses.

Western Airing  
Court.

The westmost airing-court, which has been practically nearly as useless and as noxious as the northern ones just alluded to, has for similar reasons been also abolished. We have a superabundance of airing-courts, which impart a certain prison-aspect to the main building as viewed from particular points; the disposition of the ground in this particular court is such that it afforded little view, while its high walls rendered it damp, dismal, and insalubrious; moreover, it was placed at such a distance from the Institution that it was impossible for attendants to exercise a due supervision over its occupants, when it was at all used as an airing-ground. The abolition of this court not only enables us to add a considerable area of hitherto useless space to the general garden ground; but it removes much of the prison appearance that has hitherto characterized the Institution as seen from the westward. It permits, moreover, a freer play of air and light on the west side of the building, and this is of itself a very decided sanitary advantage. The conversion of these northern and western airing-courts into free open spaces, has done much to improve the sanitary condition of the lower departments of the Institution, those occupied mainly by paupers, those wherein we have elsewhere shown\* vitiated states of health, ailments or diseases, major and minor, when they occur at all, are three times as prevalent as in the higher portions of the house. And much will further be done to add to the dryness, warmth, lightness, and ventilation of these lower galleries by operations now in progress for draining more thoroughly than at present the ground immediately round the basement of the said galleries, and by introducing free channels for ventilation under their flooring and pavement.

Salubrity of In-  
stitution increas-  
ed by removal of  
Airing-Court  
Walls, by Drain-  
age, &c.

Farm-yard  
enclosure.

The farm yard—connected with the byres, stables, and piggeries, —which is situated contiguous to, and intersects a portion of, the main walk round the pleasure grounds, and which has hitherto presented an unseemly sight to the walking parties of patients, who are constantly passing and repassing it, has been enclosed by a substantial wall, provided with appropriate and convenient gate and doorways. This shuts in the farm yard department from the general grounds, and enables us, on the one hand, to keep together the farm-yard and other workers, and, on the other, to exclude mere passing walkers, and above all, the intermeddlers and muddlers,—the mischievous and prying—among the latter. It has enabled us to add to the amenities of other parts of the grounds by the removal of an unsightly ash-pit, or midden heap, and of equally unornamental masses or piles of cast-away slates, building stones, straw, gravel, hay, firewood, turnips, and lumber of all kinds.

\* 34th Annual Report (1861), p. 45.



An extensive range of outhouses has been constructed with the stones resulting from the removal of the ventilating tower and the walls of the condemned airing-courts before referred to; these sheds or houses being provided with fire-places and appropriately lighted. They must prove of great value as supplying a species of accommodation, which is not to be found within the Institution itself, the want of which has been severely felt for years. We allude to storehouse accommodation for the garden department; for furniture not in use; and for the trunks, boxes, and other belongings of patients; as well as to workshop accommodation for artizans, such as painters, smiths, carpenters, shoemakers, tailors, or basketmakers. The purpose to which these outhouses will be more immediately applied will be that partly of storehouses, partly of workshops. But they are so arranged that, should occasion require or contingencies arise, they are susceptible of adaptation to several other important purposes. Their isolation from the main building, for instance, would render them most desirable as infirmary wards in the case of necessity arising for separating the affected during an epidemic; while, under more ordinary circumstances, they might form admirable additional dormitories. The possession of reserve accommodation of such a kind and to such an extent is an advantage of no minor importance; an addition by no means insignificant to the resources of the establishment.

A greenhouse and conservatory, with relative forcing frames, potting house and other appurtenances have been erected in the garden at a cost of about £200. This is in itself an important acquisition and addition to the amenities of our pleasure-grounds; it is already filled with a tasteful array of showy flowers, and it has already become a favourite lounge of certain privileged classes of patients or individuals. But its principal use,—the object for which it was mainly constructed,—is to supply the galleries and parlours of the Institution with a constant succession, throughout the year, of ornamental shrubs or plants; to fill our Wardian cases and Ferneries; to furnish us with bouquets; to fill our vases. The experience of the past 10 years has shown us that there are few ornaments so useful and economical, so harmless and acceptable, so well calculated to awaken a love or admiration of nature's works, to bestow habits of orderliness and carefulness—as flowers. The gardener's tank or cistern, which has hitherto stood open at a corner of portion of the main walk round the grounds, and which presented inviting facilities for suicide by submersion, has been removed to the neighbourhood of the greenhouse, and covered with a secure iron grating. This removes all source of danger, while it does not impair the usefulness of the tank, which is represented as depending on the æration of the water.

New Outhouses,  
Storehouses, and  
Workshops:

contingent uses.

Greenhouse and  
Forcing Houses.

Ornamentation  
by Flowers.

Water-tank.



Industrial operations in Garden and Grounds.

The extensive changes in the grounds above recorded, have been, to a great extent, executed or effected by the patients, whose work has embraced taking down walls, wheeling rubbish and masons' materials, trenching ground, digging foundations and similar operations of a simple mechanical nature, involving, however, the expenditure of much muscular energy or force. In addition to these operations, the keep of the grounds of the Asylum and of Pitcullen,—the management of the pumps,—the care of the cows and pigs,—the laying out of new grounds and terraces,—the greenhouse, and all the ordinary out-door work have had to be attended to: and this has drained our galleries of all the able-bodied males capable of, and suitable for, this class of work,—who were not engaged in necessary in-door occupations; and have developed to the full extent the industrial resources of the male part of our community.

Improvement of Water-Closets.

Certain alterations have been made on the water-closets. Iron has been substituted for lead in the traps or drain pipes, with a view to prevent the frequent accidents hitherto arising from rupture and choking, and the escape and accumulation of night soil, or other noxious results therefrom accruing. Certain old ash-pits and cellars beneath the basement story of the building—immediately subjacent to the front or south lower galleries, are being abolished or closed, and their site or floors thoroughly drained. A thorough drainage is also being made of sundry damp airing-courts, in which, from the nature of the ground, water is apt to accumulate in wet weather. The whole drainage operations immediately above and formerly alluded to, will benefit more directly the lower or pauper departments of the building and will thereby materially add, it is expected, to their salubrity.

Drainage operations.

Additional and improved furnishings.

Large additions have been made to the furnishings of the Institution in the shape of matting, carpeting, and upholstery. The whole of the lower or pauper galleries have been laid with broad, strong, cocoanut-fibre matting; while the bed-rooms, sick-rooms, and dormitories have been supplied with strips of carpet, all with a view to increase especially the winter comforts of the inmates, and enable them the better to resist noxious climatic or seasonal influences. *Kamptulicon* has been substituted for matting as an experimental measure in the higher galleries. But it is greatly more expensive than coir matting; the difficulties of laying it properly are much greater; while it does not impart the same feeling of warmth and comfort as matting, being more akin in this respect to wax-cloth. Several private parlours have been entirely refitted, painted, papered, and supplied with new carpeting and furniture. The use of wash-hand basins, supplied with crockery of the most modern kind, has been gradually extended throughout the house. Mirrors, towel rails, bags for combs and

Matting and carpeting.

Kamptulicon.

Furniture.

brushes, tooth and nail brushes, and other conveniences have been added, with a view to give a large proportion of the private bed-rooms the character of those of ordinary dwellings or homes. The higher classes of patients, especially the ladies, possess the perfumery and ornaments, which form the usual garnishing of their apartments in ordinary life. Wardrobes, clothes' presses, chests of drawers, or other conveniences for clothes are now to be found in most of the bed-rooms or dormitories for the higher classes of patients, and are gradually being extended to the lower departments of the house. Additional hangings, curtains and blinds are being supplied, especially to the pauper galleries and rooms; small bookcases are now to be met with in every gallery, parlour, or sitting-room; and the ordinary mantel-piece ornaments of private houses,—flower or match vases, gaudy shells, Parian statuettes,—are being introduced in all parts of the establishment. Important accessions have been made to our already large and varied supply of pictures, in the form of chromolithographs, especially of French production, engravings and photographs, all of the best class, intended for the further ornamentation of our galleries and parlours. The Murray gallery has been furnished with a large elegant Fernery or Wardian case, which has proved a material ornament; and further introductions of the same class of ornaments or furnishings will be made, as opportunity occurs, into every department of the Institution. Considerable expenditure has been made also on large ornamental flower vases for the decoration of the galleries in every part of the house; while additions are constantly being made to our stock of busts and statuary. The attendants are encouraged to make ornamental floral designs in suspended flower baskets, pots, bouquets, &c.; and several of them have attained great expertness and exhibited great taste in such displays.

Ornaments and decorations.

Wardian cases.

Amenities of the Table.

In order to educate especially the pauper patients in habits of greater orderliness, cleanliness, and propriety at table, considerable changes have been made in the mode of serving meals; while the quality and quantity of the food itself, as well as the mode of cooking, have been, as will be subsequently explained, subjects of careful consideration and new arrangement. The whole of the old table furnishings and utensils in the pauper department of the Institution have been removed, and new furnishings of the most modern kind,—of a kind indeed in use by classes far above the rank of paupers in the social scale,—have been supplied. Knives and forks of the best kind are now in general use; German and nickel silver spoons have displaced those of horn; crockery and glass ware have taken the place of tin and pewter; table-cloths have been added in greater abundance, so as to secure frequent changes and a never-failing

Substitution of modern table furnishings.



cleanliness. The proprieties of the table are further inculcated by every endeavour to seat the patients systematically before meals; by the presidency of one or more attendants at table; by the asking of blessings and other observances customary in private life. Our aims would further be assisted or carried out had we the means,—in the possession of retiring or ante-rooms,—vestibules fitted with lavatories, shoe-racks and presses for clothes, or other conveniences,—connected with commodious dining-halls or rooms,—to cause working patients to wash and dress before meals,—to change their heavy and dirty working boots for slippers,—to wash their hands and brush their hair, at least, before joining at table. Unfortunately, however, we are prevented carrying out reforms or changes of such a kind by the want of dining-halls with appropriate ante-rooms; by the greatly overcrowded state of our present unsuitable dining-rooms; and by the clumsy character of the furniture. The provision of a better class of dining accommodation and of a more modern and suitable class of dining-room furniture will, we trust, be one of the first fruits of the changes to be introduced immediately on the removal of our pauper population to Murthly.

The whole stock of cutlery and crockery,—of glass and other ware,—of table furnishings or appliances of every kind throughout the Institution has been replenished and modernised,—a better quality and larger quantity having been supplied for all classes of patients. Generally speaking the furnishings in question are of a superior kind to what the same class of patients would use in their own homes. While substantiality or durability have been aimed at on the one hand, elegance and beauty have been kept in view on the other:—acting on the conviction that important lessons may be taught,—important habits of thought, if not also of action, inculcated by the *Æsthetics* of “common things,” no less than by the more pretentious *Æsthetics* of the picture or sculpture gallery.

The subjoined table indicates the present statistics of our staff of attendants and servants:—

| MALES.                     |    |    |    | No. | FEMALES.                  |    |     |    | No. |
|----------------------------|----|----|----|-----|---------------------------|----|-----|----|-----|
| Gardener,                  | .. | .. | .. | 1   | Head Cook,                | .. | ... | .. | 1   |
| Assistant Gardeners,       | .. | .. | .. | 2   | Under Cook,               | .. | ..  | .. | 1   |
| Pump Superintendent,       | .. | .. | .. | 1   | Head Laundry-maid,        | .. | ..  | .. | 1   |
| Head Attendant,            | .. | .. | .. | 1   | Under do.,                | .. | ..  | .. | 1   |
| Postman and Messenger,     | .. | .. | .. | 1   | Housemaids,               | .. | ..  | .. | 2   |
| Tailor,                    | .. | .. | .. | 1   | Workroom Superintendents, | .. | ..  | .. | 2   |
| Shoemaker,                 | .. | .. | .. | 1   | Gallery Attendants,       | .. | ..  | .. | 5   |
| Carpenter, (Fireman, &c.), | .. | .. | .. | 1   |                           |    |     |    |     |
| Gallery Attendants,        | .. | .. | .. | 6   |                           |    |     |    |     |
| Total,                     | .  | .. | .. | 15  | Total,                    | .. | ..  | .. | 13  |

Proportion of attendants to patients from 1 to 6, to 1 to 8.  
Maximum, 1 to 5·73 [males]. Minimum, 1 to 8 [females].

Ante-rooms connected with Dining Halls.

Renovation of cutlery, crockery, glass-ware, &c.

Æsthetics of the Table.

Resident staff.



Of these every person, male and female, has charge of patients to some extent or in some measure or form, save the postman and messenger. The supervision of the gardener and head attendant is less direct than that of the other classes of male attendants, in so far as these officers have under them various grades of assistants, who are immediately responsible for the patients under their charge. The artizan attendants and the gardener's assistants are occupied the greater part of each day in the workshops, grounds, or pump houses: all have patients in charge, though the number varies in each case,—the artizans having fewer in comparison than the garden assistants: all do, in addition, ordinary gallery work; they relieve the ordinary gallery attendants from time to time; and in every respect, save that their occupations remove them and their charges from the galleries during ordinary working hours, they are placed on the same footing as the gallery attendants. The same remark applies in spirit to the female attendants and servants, all of whom may be regarded, in certain respects and at certain times, ordinary gallery attendants. According as we *include* or *exclude* such officers as the gardener and head attendant from the calculation (from which, moreover, we exclude the postman and messenger, gatekeeper, or other officers not immediately in charge of, or responsible for, patients), the proportion of attendants to patients varies from one to six to one to eight,—the average being one to seven. This applies to both sexes and all classes of patients and attendants or servants; but it does *not* include special attendants for individual patients. We find it impossible to contrast this proportion with what obtains in other Scotch asylums, containing a mixed population, because in them (as their statistics are recorded in the third report of the Board of Lunacy for Scotland\*) the item of special attendants for individual patients is not eliminated, and hence the data for comparison are not of equal value. Nor can we, from the same want of data of equal value in the two classes of cases, compare the proportion of attendants to patients in this Institution with that in private asylums or the lunatic departments of poor-houses and prisons. We have every reason for believing and asserting, however, that, in respect of the question under consideration, this Institution will be found to compare favourably with any institution for the insane, of what kind soever, in the kingdom. Our proportion of attendants necessarily varies with the predominant classes of patients. But,—leaving out of view special attendants for individual patients,—the number of attendants has probably been higher during the past year than at any former period,—in relation to the number of patients. This arises from the addition to our staff of supernumerary attendants in different departments of the Institution. Such addition has been rendered, or

Attendants and  
servants.

Nature & degree  
of supervision  
over patients.

Proportion of  
attendants to  
patients.

Supernumerary  
attendants.

\* Page 261, Appendix G: Return of Attendants in Public Asylums.



Importance of  
ample staff of  
attendants.

deemed, desirable, mainly in order to enable us to exercise a more perfect and systematic supervision over certain groups of dangerous patients of the homicidal or suicidal class; to extend the facilities for open-air exercise and multiply our walking parties; to engage a larger proportion of able-bodied inmates in industrial, especially out of-door, occupations; to minister more efficiently to the sick, by providing the supervision of trustworthy hospital orderlies or nurses in special infirmaries or sick-rooms. Not only have these most desirable objects been fully realised or attained, but the possession of so ample a staff has proved an inestimable advantage to the establishment in an infinity of other forms. It is to this circumstance due that the interests of the patients have not suffered by the invaliding, sometimes for considerable periods, of several attendants of both sexes, or by the deaths of others: that we have been enabled to grant these invalids, without detriment to the Institution, the furlough of which they stood so much in need: that we are always ready to receive favourably reasonable applications for holiday leave, and that we annually grant a certain amount of such leave to every officer of every grade in the establishment: that we are prepared for all emergencies or contingencies,—such as sudden calls to send for, or accompany home, patients,—escapes or accidents.

Rewards to at-  
tendants for long  
or faithful service.

The Directors have ever been not only willing, but forward and ready, to reward appropriately the services of attendants and servants of every class, both in respect of the duration and quality of these services. The form of reward or award differs in every individual case; and it frequently assumes some more graceful, exceptional, and unusual guise than a mere increase of wages or addition to emoluments, though the latter is assuredly by no means the least substantial or satisfactory of the said forms or guises. The most gratifying feature of such rewards perhaps consists in this,—that, recognizing to the full, and accordingly acting on, the principle that the “labourer is worthy of his hire,” and the diligent, faithful servitor,—the tried and attached servant of much more than mere hire,—the Directors do not *wait to be asked or importuned* for the recompense supposed to be commensurate with the deserts of the applicant; but they offer and urge their rewards when and where they are unexpected and unsolicited, selecting such form thereof as may be expected to be most acceptable to the recipient or his friends. During the past year these rewards have been of an unusually varied character or form; and we give them this publicity less for the gratification of the recipients themselves or their representatives (alas! that some, to whom honour was intended and honour was due, are far beyond the reach of any praises of ours!) than for the encouragement of their compeers and successors,—as a stimulus to *them*

Spontaneity of  
Reward.



likewise to devote their whole energies to the faithful discharge of their responsible and delicate duties.

In the case of 2 attendants, who have been attached to the service of the Institution for the periods respectively of 35 and 30 years, and whose long and zealous services have, moreover, been repeatedly crowned with other honours, the approbation of the Directors was marked by sending them, with a fortnight's leave of absence and all expenses paid, to the Great Exhibition in London,—one of the excursionists not having been previously furth of Scotland. In that of another attendant, who died in the Institution in the flower of his youth, the Directors indicated their sense of the value of his services by taking upon themselves all the expenses and the arrangements of the funeral, besides showing other marks of respect to his memory ; while, in that of a third, they provided what was most appropriate under the circumstances at the time,—a gift of an ample and handsome mourning suit. The peculiar circumstances or conditions of the two last mentioned awards are recorded in the columns of our “Excelsior,” and need not therefore be here repeated or reproduced. In sundry other cases—for special service—such as precenting at Chapel—money gifts have been bestowed.

Excursion to Exhibition of 1862.

Honours to the Dead.

Premiums for special service.

In one case the form of reward was the very substantial one of a Superannuation allowance, with concomitant privileges. This was equivalent to retiral on full pay, with the additional advantage of board, lodging, and other allowances. The officer on whom this important reward was bestowed—one which we have great pleasure in adding he fully merits—is upwards of 70 years of age, and has spent the better part of his long and useful, inoffensive, blameless life,—upwards of 35 years,—in the service of the Institution. He has unfailingly proved a most efficient, exemplary, and trustworthy officer ; and his desire to continue to promote the interests of the Institution by any form or degree of service in his power is only limited by his failing physical vigour. Under ordinary circumstances an annuity or pension would at once have been granted by the Directors ; the officer so pensioned would have been relieved from office ; and he would have been permitted, as well as expected, to reside beyond the precincts of the Asylum. But so strong is the attachment to, and affection for, the Institution in this aged officer, who combines in himself the characteristics of a “Caleb Balderston” and a “Nathanael,” that he made it the subject of special petition to be allowed to “end his days” therein, and he expressed himself ready to “die in harness,” provided he were not expelled, or removed, from what he had long regarded as his home, and which was really the only home he had, for he had long

Superannuation allowance :

its reasons and peculiarities.

Attachment of old officers to the Institution.

since buried in the silent grave the affections and memories of his earlier years. On being informed of the disposition, on the part of the Asylum authorities, to furnish him with the means of comfortably retiring and nursing his old age, he expressed only the desire that he should be permitted, if possible, to continue his present quarters and his present fare in the Institution, deeming *that* prize and reward abundant for all his long and faithful service. It afterwards appeared, indeed, that he had long been in dread of the suggestion of superannuation, in the belief that this would necessarily imply a residence elsewhere; and this fear had prevented, on his side, the expression of the slightest desire of relief from toil,—of a superannuation allowance or privilege of any kind; and had inspired the determination to struggle in office to the last, and to die therein rather than surrender the privilege he so much valued of residence in the Asylum building. Taking into consideration all the features of the case, the Directors at once permitted a continuance of his present residence, board, and other household privileges, and a continuance, moreover, for life of his present full pay; while they relieved him from all office or duty save such as is optional or self-imposed, or such as, in our opinion, may be suitable for his years and abilities. He enjoys, therefore, for life all his present or former emoluments and advantages; while he is relieved of all cares and responsibilities save such as are self-assumed. In point of fact, he finds it indispensable to any enjoyment of existence that he discharge a certain amount of “duty;” he remarks most truly that having “nothing to do” would bring him to his grave; and he accordingly acts with continued acceptance as postman and messenger,—at least during the spring, summer, and autumn months.

We would gladly, did space permit, make this case a text, wherefrom to remark at length on the means of securing for the future a high class of asylum officials, especially of the lower grades: a subject whereon we do not now remark for the first time, nor perhaps the last. Without permitting ourselves to go here, or at present, into detail, we would simply indicate the following as the chief means or measures necessary, in our estimation, for securing an end so desirable:—

Provision for  
securing a high  
class of Atten-  
dants.

Increased wages.

Proportional  
advancement.

Premiums for  
special service.

1. A raising of the fixed minimum rate of wages.
2. A sliding scale of increase of wages—a progressive annual addition—proportioned to length and quality of service.
3. Special and additional awards or premiums—in money—for special service or qualifications: such as conspicuous success in
  - a. Minimising the number of
    1. Accidents, assaults and quarrels: of the refractory or turbulent.



## 2. The dirty and degraded.

- b. Detecting and checking vicious habits or propensities.
- c. Promoting cleanliness and tidiness of dress, and furniture.
- d. Introducing, promoting and rendering popular games, amusements and occupations.
- e. Maximising industrial occupations and their fruits.
- f. Promoting a love of beauty and order by the most tasteful arrangement of flowers, pictures, statuettes, ornaments.
- g. Exercising forbearance and self-control under circumstances of unusual irritation and provocation.
- h. Night watching, or tending the sick or feeble.
- i. Precenting at Chapel, or otherwise presiding at Re-unions of any kind.

4. Superannuation allowances, or retiring pensions on a liberal and equitable scale: their nature and amount being pro-<sup>Superannuation.</sup> portioned not only to the *duration*, but to the *quality*, of the services of the officers to be superannuated.

Some such inducements, we believe, are absolutely indispensable or necessary to permanently attach to an asylum, officers, especially of the subordinate grades, of the most suitable kind, and to prevent the present liability to constant change,—for instance among the attendants,—change which directly operates most deleteriously, in multiform ways, on the best interests of the patients. Some such inducements, moreover, are daily being rendered more desirable by the increasing com-<sup>Competition for</sup> petition for trained attendants on the insane, in consequence of the springing up in all directions of county or district asylums, the extension of the lunatic wards of poor-houses and prisons, and the multiplication of private institutions for the insane. We cordially concur in the remarks of the Commissioners in Lunacy for Scotland\* on the inadequate remuneration of asylum attendants. They allude to the “rate of wages paid to attendants as being on too low a scale to retain <sup>Inadequate remuneration of</sup> “the permanent services of trustworthy and efficient persons:” and they go on to remark “the importance of this question cannot be “overstated; for it is upon the quality of the attendance, more than “upon any other element, that the comfort and wellbeing of the patients “depend. But, until the amount of their remuneration is so increased “as to make the loss of their situations a matter of consequence to the “attendants and to their families, the patients will be deprived of per- “haps the greatest safeguard against neglect and cruel treatment that “can be provided. To those private patients, who have been accus- “tomed to respect and obedience in their own houses, it is more espe- “cially galling to be subjected to the control, and it may be, to the

“tyranny of coarse and uneducated men, whom formerly they would have rejected as domestic servants.”

Superannuation allowance :

their necessity and advantages.

Comparison of Scotch with English and Irish Asylum service.

Defects of Scotch Lunacy statutes.

Asylum-service a department of the Public Civil Service.

Of all the provisions or classes of inducements to which we have above referred, Superannuation Allowances appear of greatest importance. We find that entrants on asylum duties consult less their *present* advantages than what they term their *prospects*—their opportunities of advancement or promotion, such promotion carrying with it as is naturally expected, and as it undoubtedly should, extra pay or additional emoluments ; above all, they look to the provision they may be enabled to make, or that may by their employers or patrons be made, for their old age, or for sickness and other sources or causes of incapacity. And it is in respect of these prospects, these *future* provisions for the well-being of its officers, that the Scotch asylum service stands at a great disadvantage when compared with other departments of the civil service certainly not more worthy nor important, or with the naval or military services. It is a curious anomaly that, while the most recent statutes affecting asylums in the sister kingdoms make provision for superannuation allowances to all classes or grades of asylum officers ; while in England and Ireland these officers are placed, so far as regards superannuation and other advantages or privileges, on equal footing with the officers in other departments of the civil service : in none of the Scotch Lunacy statutes do superannuation clauses occur—on none of the officers in Scotch asylums are such rewards by law bestowed. We cannot conceive any adequate or proper reason why Scotland should, in this respect, occupy a position so peculiar and exceptional ; the more exceptional and peculiar if we extend our comparison and regard the corresponding practice of continental countries, such as Denmark. It cannot be that the asylums of Scotland are less worthy than those of the sister kingdoms. Indeed we might with propriety,—though deprecating any form of another “justice to Scotland” agitation, maintain the converse, and assert that, in so far as the Scotch asylums are, as a whole, older, and have done more public service,—omitting all reference to the comparative quality or nature of that service,—than those of England or Ireland, they are more worthy of the possession of advantages, such as must accrue from superannuation allowances to their officers. The Royal chartered asylums of Scotland are now of comparative age (their precise respective ages from the date of opening being Montrose 81 years ; Aberdeen 62 ; Edinburgh 50 ; Glasgow 49 ; Dundee 43 ; Perth 36 ; Dumfries 24) ; they have been altogether or mainly originated and conducted by private or public enterprise,—without government assistance, perhaps in spite of government apathy ; and it



is infinitely to their credit that they have done so, and done so to such effect. But the Scotch Asylums Act of 1857 placed all of them under government supervision ; imposed on all certain government regulations ; *pro tanto* converted them into government institutions ; and as such gave them a claim, we think, in addition to many other claims or considerations, to be regarded as departments of the civil service of the country. We at once admit there must be difficulties in the way of regulating, on a uniform basis, superannuation in the older Chartered, equally with the new District, asylums of Scotland. Nor do we propose interfering with this aspect of the question ; which we prefer leaving for adjustment to and by the Commissioners in Lunacy for Scotland and the authorities of the respective asylums. But we may be permitted to express a fervent hope that no material obstacle may ultimately interfere with placing all classes of officers in the Scotch asylums on an equal footing, as regards superannuation, with their more fortunate brethren in England and Ireland.

Extension of  
Superannuation  
advantages to  
Scotch Asylums.

In several English Lunacy Statutes\* occur provisions of a liberal kind—though not so liberal as we hope to see before long in equivalent statutes in Scotland—for the superannuation of all classes of officers in the public asylum service. These officers in England have virtually all the advantages arising under the Superannuation Act of 1857, which applies to all departments of the modern civil service, including the English Lunacy and Prison Boards, and to all classes or grades of officers from clerks upwards ; as well as under the older act, 4 and 5 William IV., which regulates “the Pensions, compensations and “allowances to be made to persons in respect of their having held civil “offices in His Majesty’s service.”

Superannuation  
in English  
Asylums.

Ireland is even better provided, inasmuch as it is fortunate enough to possess a special “*Superannuation Act*” applicable to public asylums.† The act in question has been in successful operation for several years. In the latest Irish Asylum Report, which has reached us,—that of the Richmond District Asylum, Dublin, (for 1862),—the superintendent gives an illustration of the ordinary working of the act in the superannuation of a female attendant, aged 42, whose period of service had extended to 24 years,—whose wages had been £8 per annum, with allowances equivalent in value to an additional annual sum of £28, and who was superannuated on an annuity or pension of £15, 2s 4d. The same superintendent in the same Report (page 28) gives it as the result of his experience, that “The application of the Superannuation “Act to the staff at Lunatic Asylums . . . . is a measure “*not only of justice to the recipients, but of advantage to these institu- “tions.*” Testimony still stronger is given by Dr Nugent, Commis-

Superannuation  
in Irish Asylums.

Successful opera-  
tion of “Super-  
annuation Act”  
in Ireland.

\* 1. 16 and 17 Vict. cap. 97, sect. 57, 1853, which regulates the County Pauper Asylums of England.

2. 25 and 26 Vict. cap. 3, sects. 12 and 73, 7th August, 1862 (“Lunacy Acts Amendment Act, 1862.”)

3. 25 and 26 Vict. cap. 86, sect. 26 (“Lunacy Regulation Act, 1862,” 7th August).

† 19 and 20 Vict., cap 99 (“The Lunatic Asylums, Superannuations, Ireland, Act 1856 :” otherwise “An act to amend the acts relating to Lunatic Asylums in Ireland so far as relates to Superannuation,”) 29th July, 1856.



sioner in Lunacy for Ireland,\* who speaks in the highest terms of the benefits conferred by the Irish Asylums Superannuation Act. Referring to sundry asylum officers, who had retired on the "liberal pension" provided by the said act, he goes to say: "That provision should be made for the officers of District asylums, as elsewhere, when worn out by age and length of service, is but just and reasonable, and on principle has been ever advocated by us. We know no duties so onerous and so unceasing as those connected with the management of the insane, entailing at all hours the same anxious responsibility. As the labourer is worthy of his hire, a liberal recompense when engaged on service, and *the certainty of a commensurate allowance on retirement*, is but a reasonable expectation: and we cannot but think that the staff of lunatic asylums in this country, as a body, are not only underpaid when on duty, but that an exceptional rule should be made in favour of deserving officers, who, growing old in them, are rendered unfit for after employments by previous habits, professional or other. Take, for example, the medical superintendents, restricted to a sort of cloister life within the precincts of an asylum—men of education, enlightened views and varied acquirements—their hours devoted to the good of the helpless and afflicted, and compare their salaries with those paid to the members of other professions, who are certainly not superior in knowledge, and whose sphere of action, though useful and necessary for the well-being of society, is not directed to the attainment of a higher or more important object than that of the individual, who labours to ameliorate the condition of his fellow-creatures under the heaviest and most dreaded visitation to which mankind is liable."

We have lately revised, by the light of recent advances in Chemistry and Physiology in their bearings on Dietetics—all classes of the Dietaries of this Institution—with a view, where necessary or expedient, to alter or amend them. With the same end in view we have endeavoured to institute contrasts or comparisons, in respect of their nutritive value and suitableness, between these dietaries, and those not only of other institutions of a similar kind in all parts of the world, but of general hospitals and the public services, as well as all other dietaries of a comparable class, or that might yield data of any service in our investigations. At the very outset of our inquiries, however, an almost insuperable difficulty presented itself in the form in which public dietary tables are generally drawn up. So much does this form vary—so great, further, are the differences in the constituent items of public dietaries—that we found comparison of an accurate or useful kind simply impossible. In order to ascertain how far our dietaries

Justice and  
policy of Super-  
annuation.

Opinion of Com-  
missioners in  
Lunacy for  
Ireland.

Revision of  
Dietaries.

Unsatisfactory  
form of Public  
Dietary Tables.

\* 8th "Report of the District, Criminal and Private Lunatic Asylums in Ireland," 1857. Page 14.



come up to the standards laid down by the most recent and best authorities on the chemistry and physiology of food—to the physiological requirements of the adult healthy system under varying circumstances of occupation and exercise—it appeared indispensable to determine their nutritive value by estimating the mean daily allowance in dry or solid nutriment per person they respectively represent. The only accurate and satisfactory means of arriving at such a result is by chemical analysis of all the constituent articles or items of our dietaries, and by calculations based thereon in reference to the number of the consumers. Such a procedure would, however, require the services of a professional analyst, and would entail not only a heavy expense, but great labour and considerable delay. Nor is this necessary or essential to our immediate purpose: for, *approximative* results of sufficient accuracy for present ends may be arrived at by using, as a basis for calculation, the chemical analyses of different qualities of ordinary food made in this and other countries by various of our most distinguished chemists, experimental physiologists, or authorities on dietetics, within the last quarter of a century, and especially during the last few years. These analyses have been diligently collected, compiled, and tabulated—and the means, or average results, exhibited—by various recent writers and experimenters on dietetics: the tables so arranged are now generally regarded and received as standard scales for estimating the amount of dry nutriment in, or, in other words, the nutritive value of, our ordinary food. None of these tables are, however, of such a character as to be alone, or in themselves, serviceable for our purpose. Compared with each other for the purpose of selecting the best or most trustworthy, they exhibit marked differences or discrepancies in their estimates—depending mainly, perhaps, on differences in the mode or object of the chemical analyses, as well as on the different qualities of the representative or typical articles analysed. Generally speaking, the older analyses may be looked upon with some suspicion. So rapid has been the recent growth or progress of organic chemistry; so striking the changes in systems of analysis; so numerous and important the improvements in its instruments and appliances; so greatly have analytical chemists been multiplied, and so much more expert have they become—so much greater exactitude has characterised their results—that the same articles of food give, in the hands of modern chemists, results very different from those published by their predecessors or representatives even 10 years ago. The older chemists seem to us to err, for instance, in their excessive estimates of the proportion, or per centage, of the *nitrogenous* constituents of food.

Estimates of Nutritive value.

Chemical analyses of Foods.

Tables showing Solid Nutriment in Foods.

Differences in chemical analyses and estimates.

Errors of older analyses.

Considering the differences and discrepancies in analytical results, to which we have alluded, we have deemed it desirable, if not necessary, to construct for ourselves a Standard Table, showing the proportion of solid or dry nutriment in various common foods: which table we may use as a scale or basis for calculating or estimating the nutritive value of the Dietaries of this Institution, as well as of certain other dietaries, with which we institute comparisons. Our table is based on the means or averages of the best tables or statistics of the same class hitherto published: those, especially, which have been drawn up or published by

1. Professor Parkes<sup>1</sup> of London.
2. Professor Lyon Playfair<sup>2</sup>
3. Professor Christison<sup>3</sup> } of Edinburgh.
4. Professor Haughton<sup>4</sup> of Dublin.

The Standard Table so constructed and hereto immediately appended,—which forms the basis of all the tables and calculations relating to dietaries or foods that are to follow,—in so far as these are

1. Professor of Hygiene, Dietetics, &c., in the Army Medical College, Netley: a *MSS.* table, being that used in his courses of Lectures to Army Assistant Surgeons; for which table, and for its compiler's courtesy in supplying it and explanatory notes, we have to record our grateful acknowledgements. This table exhibits the means of analyses of average food—similar to soldier's food—by continental chemists especially—including Von Bibra, Poggiale, and others; as well as by Lawes and Gilbert, and other British authorities. It gives separate estimates of the two great classes of *Carbo-hydrates*, which constitute the heat-giving section of the constituents of food; the fats and oils on the one hand, and the starches and sugars, dextrine, &c., on the other. The calculations would appear to be based on *raw* food, which renders it necessary that certain deductions be made for *loss by cooking*. It may save repetition if we here add, by way of illustration, in regard to meat as supplied by the butcher, that the average deduction for bone amounts to 25 per cent., while the *loss of weight by cooking* amounts to from 30 to 35 per cent: so that the allowance of *cooked meat free from bone*—the quantity, in other words, suitable for digestion—falls to about one-half only of its weight when uncooked or raw.

2. Professor of Chemistry in the University of Edinburgh. Table of the "Constituents of Food"—the result mainly of original analyses given in "Popular Lectures on Food," delivered at the South Kensington Museum [London, 1862], by Dr Lankester, Superintendent of the Food collection at South Kensington, and Coroner for Middlesex. This Table is characterised chiefly by its separate determination of the *Salts* or mineral constituents of food, which, in such estimates or tables, are generally omitted.

3. Professor of Dietetics and Materia Medica in the University of Edinburgh. Printed tables used in the said course of Lectures in November, 1849. A marked feature of these tables, in comparison with similar ones of more recent date, is their *high* estimate of the *nitrogenous* constituents of food. For instance, these constituents are given in:—

|                |    |    |    |                       |
|----------------|----|----|----|-----------------------|
| Meat—at from   | .. | .. | .. | 20.25 to 27 per cent, |
| White Fish,    | .. | .. | .. | 21 ..                 |
| Bread,         | .. | .. | .. | 10.5 ..               |
| Wheaten Flour, | .. | .. | .. | 16.25 ..              |
| Butter Milk,   | .. | .. | .. | 6.60 ..               |

There appears to be associated a comparatively low estimate of the *carboniferous* constituents in certain articles of diet; which are stated, for instance, in:—

|              |    |    |    |    |              |
|--------------|----|----|----|----|--------------|
| Meat—at      | .. | .. | .. | .. | 15 per cent. |
| Oatmeal,     | .. | .. | .. | .. | 65.75 ..     |
| Barleymeal,  | .. | .. | .. | .. | 67.00 ..     |
| Butter Milk, | .. | .. | .. | .. | 1.00 ..      |

while no separate estimate is formed of the *Salts* or mineral components of food.

4. Tables of results given in the undernoted Pamphlets or publications, for which we have to offer our thanks to their author:—

a. "On the Natural Constants of the healthy Urine of man, and a theory of work founded thereon:" Dublin Quarterly Journal of Medical Science: Aug. 1859: Aug. 1860: and Nov. 1862,

b. "On the phenomena of Diabetes mellitus:" *Ibid.* 1861.

The results are those of actual experiment by the best methods known to modern science, and of analyses of the most rigidly accurate kind. So far as they go, they are among the most trustworthy and admirable with which we are acquainted. But their limited range, and the object and character of the analyses render these results unsuited, for the most part, for our present calculations and comparisons.



not the productions of other authors, and distinctly so specified—requires certain explanations in order to its due understanding and use.

# STANDARD TABLE—BASED ON THE CHEMICAL COMPOSITION OF FOODS:

*being a Scale for estimating the Nutritive value of the Principal articles of  
ordinary Diet.*

|                                                                                                                                                                                                                                                                                        | Per Centage of Dry or Solid Nutriment. |                         |           |                           | Water. | Standard Table<br>of Solid Nutri-<br>ment in Foods. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------|-----------|---------------------------|--------|-----------------------------------------------------|
|                                                                                                                                                                                                                                                                                        | Nitro- (1)<br>genous.                  | Carboni- (2)<br>ferous. | Mineral ¶ | Total Solid<br>Nutriment. |        |                                                     |
| 1. Meat— <i>a.</i> — Butcher meat—(Beef,<br>Mutton, Pork, Veal,<br>Lamb:—fresh — raw or<br>cooked—lean, or with<br>moderate proportion of<br>bone and fat),                                                                                                                            | 15                                     | 23                      | 1†        | 39                        | 61     |                                                     |
| <i>b.</i> —Fish—white—(Herring,<br>Haddock, Flounder),                                                                                                                                                                                                                                 | 15                                     | 6                       | 1         | 22                        | 78     |                                                     |
| <i>c.</i> —Bacon and Pork Ham,                                                                                                                                                                                                                                                         | 9                                      | 57                      | 1         | 67                        | 33     |                                                     |
| 2. Bread — white or wheaten — best<br>and average qualities,                                                                                                                                                                                                                           | 8                                      | 50                      | 2         | 60                        | 40     |                                                     |
| 3. Wheaten Flour—best and average,                                                                                                                                                                                                                                                     | 14                                     | 70                      | 1         | 85                        | 15     |                                                     |
| 4. Oatmeal—best and average, ..                                                                                                                                                                                                                                                        | 17                                     | 68                      | 3         | 88                        | 12     |                                                     |
| 5. Barley—(Pearl—barley meal or<br>flour), ..                                                                                                                                                                                                                                          | 14                                     | 70                      | 2         | 86                        | 14     |                                                     |
| 6. Indian Corn (or meal—Maize),                                                                                                                                                                                                                                                        | 12                                     | 72                      | 1         | 85                        | 15     |                                                     |
| 7. Rice, .. ..                                                                                                                                                                                                                                                                         | 6                                      | 87                      | 1         | 94                        | 6      |                                                     |
| 8. Sago, Arrow Root, and Tapioca,<br>Mean of the two foregoing classes<br>of Farinaceous foods, ..                                                                                                                                                                                     | 4                                      | 82                      | 1         | 87                        | 13     |                                                     |
| 9. Eggs, .. ..                                                                                                                                                                                                                                                                         | 5                                      | 84                      | 1         | 90                        | 10     |                                                     |
| 10. Milk—sweet and skimmed—sp gr.<br>1025 to 1035, .. ..                                                                                                                                                                                                                               | 13                                     | 12                      | —         | 25                        | 75     |                                                     |
| 11. Cheese, .. ..                                                                                                                                                                                                                                                                      | 4                                      | 7                       | 1         | 12                        | 88     |                                                     |
| 12. Butter—salt and fresh, .. ..                                                                                                                                                                                                                                                       | 48                                     | 25                      | 5         | 78                        | 22     |                                                     |
| 13. Fat, Suet, and Lard, .. ..                                                                                                                                                                                                                                                         | —                                      | 95                      | —*        | 95                        | 5      |                                                     |
| 14. Potatoes .. ..                                                                                                                                                                                                                                                                     | —                                      | 100                     | —         | 100                       | —      |                                                     |
| 15. Peas—dry—split, .. ..                                                                                                                                                                                                                                                              | 2                                      | 24                      | 1         | 27                        | 73     |                                                     |
| 16. Do. green, .. ..                                                                                                                                                                                                                                                                   | 24                                     | 56                      | 3         | 83                        | 17     |                                                     |
| 17. Carrot, .. ..                                                                                                                                                                                                                                                                      | 7                                      | 36                      | 2         | 45                        | 55     |                                                     |
| 18. Turnip, .. ..                                                                                                                                                                                                                                                                      | 2                                      | 9                       | 1         | 12                        | 88     |                                                     |
| 19. Cabbage (fresh or boiled), .. ..                                                                                                                                                                                                                                                   | 2                                      | 5                       | 1         | 8                         | 92     |                                                     |
| Mean of the 4 foregoing classes of<br>Vegetables—<br>Miscellaneous Vegetables—<br>(including Pot vegetables—<br>Greens (Kale), Onions,<br>Leeks, Cauliflower, Brocoli,<br>Brussels - Sprouts : and<br>Salads—Asparagus, Lettuce,<br>Beetroot) — are calculated<br>on this scale, .. .. | 2                                      | 6                       | 1         | 9                         | 91     |                                                     |
| 20. Fruit—(including Rhubarb, Apples,<br>Pears, Plums, Strawberries,<br>Gooseberries, Raspberries,<br>Blackberries, and Currants,—<br>are also calculated on this scale, )                                                                                                             | 3                                      | 14                      | 1         | 18                        | 82     |                                                     |
| 21. Sugar, .. ..                                                                                                                                                                                                                                                                       | —                                      | 98                      | —         | 98                        | 2      |                                                     |
| 22. Cocoa (nibs—Chocolate), .. ..                                                                                                                                                                                                                                                      | 22                                     | 69                      | 4         | 95                        | 5      |                                                     |

\* Exclusive of the Salt used in curing.

† — — Nitre, &c. used in pickling.

¶ Quantities below 1 per cent omitted—for convenience in calculation: Salts, (such as common Salt), used as condiments, also necessarily omitted.

1. Including albumen, fibrine, caseine, and gelatine, and their equivalents in the vegetable series.

2. — oils and fats; sugars and starches; gum and cellulose (or woody fibre); and dextrine.

Nitrogenous  
constituents of  
Foods.

Not necessarily  
nutritious.

Physiological  
action of Foods.

Science and  
experience at  
variance in selec-  
tion of Foods.

The first column represents the proportion in food of what are variously denominated, according to the chemical or physiological views of authors, their nitrogenous, sanguigenous, plastic, or tissue-forming elements or constituents. This group of components is alone capable of being transformed into blood, from which all the animal tissues are formed\*—can alone supply, by new plastic materials, the fabric-waste of the body. It consists of the albuminous series of substances respectively denominated albumen (their type), fibrine, caseine, and gelatine, characterised by *nitrogen* and sulphur, more especially the former, as integral elements of their chemical composition. Hence the proportion of these substances in food is generally sought to be ascertained or estimated by the percentage of nitrogen the food in question contains. Sanguigenous substances further contain, as essential ingredients, certain small, but never absent, proportions of *salts or mineral matter*; alkalis especially, and alkaline or earthy phosphates. All the members of this group of substances—the nitrogenous constituents of food—are not nutritious, according to the most recent experimentalists, in the sense that they directly add to the repair of waste, to the building up the fabric of the animal body. *Gelatine*, at least, appears to be an exception; but there is yet no good ground for refusing to believe that this substance nevertheless subserves some useful purpose as yet unknown, in digestion—in the economy. Indeed, the *modus operandi* of food in nutrition, notwithstanding the rapid progress that has recently characterised experimental physiology and chemistry in their applications to dietetics, cannot yet be said to be accurately or satisfactorily known or determined. There are various substances and classes of substances, of which science tells us that they do not contribute to nutrition, in the sense either of supplying tissue-waste, or maintaining animal heat, of which, nevertheless, experience tells us they do, in some way, minister to digestion and assimilation, in the sense at least, that they prove valuable or indispensable adjuncts or aids to the chemical and physiological action of other substances, concerning the nutritive powers whereof there is no doubt. This is a case where experience is at variance with scientific theory or abstract science, and where the former is probably a safer monitor or guide than the latter. Science pronounces gelatine to be non-nutritious in the strict sense of the term “*nutritious*,” and hence would expunge this nevertheless useful substance from the category of *Foods*. Experience, on the other hand, indicates that there is a universal craving for gelatine in some form as an ingredient in foods; and that, so far from being deleterious or innutritious in the popular sense, it ministers pleasantly to digestion and assimilation in some way, whatever science may say

\* Muscle, or flesh, says Gregory, is “simply Blood more highly organised.” Handbook of Organic Chemistry, 4th edition: Edinburgh, 1856. Page 538.



to the contrary. The statement by the best and most recent authority on the physiology of food, one of our ablest experimental physiologists, Dr Edward Smith—that “Appetite for food is the expression not only of *desire* but of *fitness*,” referring to particular articles or ingredients of food, has a distinct bearing on the point at issue.

Appetite as a guide to selection of Foods.

The second column of the standard table represents what are variously denominated by chemists or physiologists according to the view adopted of their action or composition—carboniferous, carbonaceous, respiratory, heat-giving or calorifacient components of food. These substances evolve or supply, by or in course of their oxidation, the animal heat; but they do not contribute to the building up of tissue or fabric, save insofar as fat or oil is necessary thereto. They are otherwise termed carbo-hydrates; but they are less distinguished chemically by the possession of *carbon* and *hydrogen*, as essential elements of their composition, than by their differing from the nitrogenous, or previous, group by the non-possession or absence of nitrogen and sulphur. They embrace two great classes of substances:—1, That which includes oils, fats, and butter; and 2, that comprising starch and sugar, dextrine, gum, and cellulose. This group, as well as the former one,—the carboniferous as well as the nitrogenous constituents of food, as tabulated above, and as generally tabulated for the purposes of calculations of a similar kind,—contain certain substances not in themselves nutritious, directly or in a strict sense, but which are, notwithstanding, important aids to the digestion of the truly nutritious components with which they are usually associated in ordinary food. Such substances are gum and cellulose or woody fibre, as contained in the husks of the farinacea, and in the tissues of green vegetables. But these matters are of such undoubted service as stimulants of the peristaltic action and of the secretions of the intestines, especially in persons of sedentary habits and passive life, that it is generally necessary or advisable to add to ordinary food,—of a more strictly nutritious and digestible kind,—a certain proportion of avowedly *indigestible* material of the class in question. Hence it is by no means desirable that certain foods, such as bread, should be of *too fine or pure a quality*: hence the superiority of brown bread and a varied vegetable diet including fruits, over diets from which these substances, or their equivalents, are absent: hence the benefit of the use of bran biscuits and similar articles as adjuncts or additions to the too fine bread in use by the upper ranks in this country.

Carboniferous constituents of Foods.

Classification of Carbo-hydrates.

Not necessarily nutritious.

Mechanical quality of Foods.

The third column of the table contains, or sets forth, the proportion of the saline or mineral constituents of food, which, though usually existing only in small quantity, are still indispensable to true nutrition,

Mineral constituents of Foods.

to the supply of waste, to the repair or replacement of old tissue, to the formation of new. The salts in question are chiefly the phosphates, carbonates, sulphates, fluorides, and chlorides of lime, soda, potash, magnesia, and iron, which are necessary more especially for building up the solid framework of the body. Phosphates and lime are indispensable to the construction of bone; iron and soda to the composition of the blood; potash occurs invariably in the juice of flesh; and chlorine in the gastric juice. No estimation of the nutritive value of foods can be complete in which the salts thereof are omitted; at the same time they exist in so minute quantities that it is generally unnecessary to form a separate estimate. In the tables based on our standard table no separate estimate has been given; but the salts have been associated with the carboniferous constituents, not as more closely allied thereto than to the nitrogenous, but simply as an arrangement of greater convenience.

Total solid Nut-  
riment in Foods.

The 4th column of the Standard Table gives the aggregate of the preceding 3 columns,—the total solid nutriment in foods; and the 5th column is introduced simply as complementary to the 4th,—these 2 columns representing in total the chemical composition of Foods. We

Water in Foods.

make, however, no separate estimate of the water in foods in the calculations based on this table, because the nutritive power or value of foods depends on their *solid* constituents, and is generally inversely in proportion to the quantity of *water* they contain. Besides, the estimation of water is at all times easy and simple, by deducting the per centage of solid nutriment from 100 parts of any given food.

Chemical classifi-  
cation of con-  
stituents of Foods.

We have employed the classification of the components of foods generally used by scientific authorities, without thereby attaching ourselves to Liebig's celebrated "Theory of Food," on which perhaps such classification is mainly founded. It would appear indeed, from the most recent researches,\* that this ingenious and popular theory has been tested by rigid science, and found wanting, in so far as, *inter alia*, while the so-called calorific or non-nitrogenous group of foods, or the constituents thereof, cannot build up, or replace, tissue, the nitrogenous or plastic group can both generate and maintain animal heat, and supply tissue-waste. This is not surprising when we call to mind the chemical composition of the latter group; how while characterised by elements (nitrogen and sulphur) absent from the other group or class in question, they possess in common the important elements carbon, hydrogen, and oxygen—and are *pro tanto*, as much as the calorifics proper, carbo-hydrates, susceptible of an oxidation attended with the evolution of heat.

Liebig's "Theory  
of Food."

Nitrogenous  
substances as  
calorifics.

It is further necessary to explain that all our tables and calcula-

\* "Experiments on Food; its destination and uses," by Professor W. Savory; read before the Royal Society of London, May, 1862. *Lancet*, April 4 and 11, 1863. *Vide* also the Researches of Bischoff and Voit, &c.



tions refer to *Foods proper* ; Foods necessary ; Foods for the most part solid ; Foods more strictly nutritive, ministering directly to tissue-repair, or calorifaction. Hence no reference is made to such beverages or substances as tea and coffee, beer and porter, wines and spirits—some of which are constant ingredients of ordinary diets ; but which belong to the class of dietetic medicines or medicinal beverages, a class intermediate in character between Foods proper and Medicines proper. As such we prefer considering them separately and in equal detail on some future occasion. No considerations on the Physiology of Foods can be complete, however, where no account is taken of the part played by the large and important class of neurine stimulants or calmatives. We believe their *modus operandi* on the human system to be still *sub judice* ; but all our experience goes to indicate that, in certain classes of cases, in a large proportion of mankind, in society as at present constituted, their benefit is undoubted. This being the case, we have ever felt it unjust and cowardly to permit any prevalent popular views, or any mere scientific aspects of the question of their physiology or chemistry, to deter our commending or prescribing in this Institution substances, which, whether regarded as “ Food, Medicine, or Poison,” are, *when rightly administered, of unquestionable service*. Nor do we take in our Tables any note of condiments, such as salt, mustard, pepper, vinegar,—though some of them are (for instance, salt) indispensable to nutrition, or prove valuable adjuncts to the healthy action of Foods as generally used by mankind. Their consideration would lead us into another wide field of inquiry. Of their utility the universal testimony of our race, civilised and savage, leaves no doubt ; they supply perhaps “ besides stimulation, some elements cunningly “suited to the constitution of mankind.” \*

Foods proper in contradistinction to Dietetic Medicines.

Physiological action of Dietetic Medicines :

and of condiments.

Using the Standard Table or scale already given as a basis for our calculations, we have drawn up a series of Tables showing the amount of dry nutriment in,—or in other words the nutritive value of,—the typical classes of the Dietaries of this Institution. We have generally selected *male* dietaries deeming it unnecessary to encumber our space with those for *females*, which differ only in so far as they exhibit a certain reduction or deduction in certain articles of Food. This deduction amounts on an average, to from 10 to 20 per cent. (15 per cent. being a usual mean) ; the average sometimes rising, in the case of special articles or items of food, to 30 per cent. or upwards. The deduction is principally in regard to the more substantial articles of diet, such as meat, oatmeal, bread and cheese ; and it is proportioned to the less requirements of the system,—the smaller amount of physical labour or exercise,—of females as compared with males.

Estimation of Nutritive value of Dietaries of this Institution.

Differences between Male and Female Dietaries

\* *Cornhill Magazine*, vol. iv., 1861, page 293.—Article on “ Food : how to take it : ” one of a series of Papers on Popular Dietetics, abounding in interest and instruction ; and which, as such, we can confidently commend for general perusal.



Difficulties in  
estimation of Nutritive value of  
Public Dietaries.

Calculations on the nutritive value of Foods are attended by difficulties of a kind and to an extent that can only be conceived by those who have actually essayed such inquiries. It is, however, unnecessary to specify in detail what these difficulties are—wherein they reside; and we refer to them at all simply as one reason for the non-attainment of perfect accuracy or exactitude in results. A professional chemist, of whose kind aid we had the advantage at a particular stage of our inquiries, and who could be no novice to such investigations or calculations, wrote us that the estimation of the nutritive value of our printed Diet Tables “would embrace work “enough for a staff of 4 or 5 clerks for several hours a-day for a week,” leaving out of view his own superintending or supervising labours. He found, for instance, 10 separate calculations necessary for the determination of the nutritive value of the *soups* used by the *pauper* class alone; and many other items required calculations equally “numerous and complex.” This is far from an exaggeration of the labour inherent in, or inseparable from, such an inquiry. It has cost ourselves the leisure of several weeks,—with the aid of the House-steward of the Institution,—to educe the results now tabulated or generalised. These results, notwithstanding all the pains bestowed on them, can claim only approximative accuracy and a limited scientific value; but they may still be useful in forwarding the main object we had and have in view,—the improvement of our Dietaries in relation to their specific suitability to individual patients and to groups or classes thereof.

Approximative  
accuracy only  
attainable.

Dietaries for  
paupers:

their compara-  
tive superiority

First among the dietaries of the patients or inmates of this Institution we place that for the pauper class as being *quoad* the patients the *typical dietary*. It is typical both as respects the amount of solid nutriment and food supplied: the quality or nutritive value of that food: and its superior economy. Compared with the dietaries of the higher classes of patients, it is at once seen to be the fullest and simplest; for the dietaries of the upper ranks of patients differ from that of paupers chiefly as regards a different class or type of food—a greater variety therein, and a greater expensiveness thereof—unattended, however, by greater nutritive value. Inasmuch as a separate pauper dietary will soon be no longer here required, we deem it unnecessary to make the criticisms or suggest the alterations we should otherwise have done. But, in so far as we conceive this dietary to be infinitely preferable or superior, in point of nutritive value, to the higher or more expensive classes of dietaries, we would strongly commend the extension of this type of dietary,—of this class of Foods,—where possible or admissible—to the higher classes of patients. We



allude mainly to the porridge and milk, which constitute the daily feature or characteristics, of the pauper dietary ; or to substituted foods of a similar class. In connexion, however, with any such innovations on the dietaries of the higher ranks of patients, difficulties of a formidable character at once meet us, in the shape chiefly of popular prejudices anent Foods, and the previous bad habits of patients in respect of Food-taking. The middle and upper ranks of society are too much—for their own health—in the habit of using tea or coffee diets ; a practice which may be characterised as essentially the imbibition of a considerable amount of tepid water ; the administration of a nervine stimulant or calmative ; and the consumption of a very limited amount of solid nutriment in the form of bread, milk, butter, and sugar. There is a “fashion” in foods ; and unfortunately present fashion leads people to prefer, for instance, tea and coffee to porridge and milk diet ; the finest white bread, adulterated with alum and made of the purest flours, to that made of whole flour or 2nd qualities—to the brown or so-called “coarse” breads, which are infinitely more wholesome ; to confine themselves too much to wheaten breads to the exclusion of other breads or Foods composed of rye, oats, or barley—of pease, lentil, revalenta—or other highly nutritive cereal or leguminous flours ; to select chicory-adulterated coffee rather than the pure berry ; to boil their tea and spoil it by converting it into a strong solution of Tannic acid ; to deliberately waste the important saline constituents of vegetables,—which are so indispensable to nutrition that they *must* be supplied in some other, and probably more expensive and questionable, form,—by discarding the water in which they have been boiled. Porridge and milk the mass of the community regard as a necessity for the poor,—necessary on the score of its comparative economy as a diet ; but they cannot look upon it as a *luxury for the rich*. Nevertheless, where admissible or suitable,—in relation to the digestive powers of the consumer and the amount of physical labour he undergoes or exercise he undertakes, there is no morning diet comparable to porridge and milk for any class of the community. It by no means detracts from the general merits of this recommendation that such a diet is, in many cases, contra-indicated or inadmissible ; these are exceptional cases of depraved taste or depraved habits,—of unhealthy conditions of the digestive system, or of idiosyncrasy. Chemistry and physiology, science and experience alike point out, in unmistakeable characters, that the diet, which is the simplest and the cheapest, is frequently also the most nutritious and natural ; and that the pauper and ploughman, *quoad* his diet, is infinitely better off than his richer and more fastidious fellow. The robustness and vigour of the Scottish peasantry on

Porridge and milk as a type of diet.

Popular prejudices and fashions in diet.

Illustrations of depraved tastes.

Comparison of diets of lower and higher classes.

their oat and pease-meal foods (their “brose” and “porridge”—“cakes,” “bannocks” and “scones”); or of the Scandinavian peasantry on their rye and barley breads and porridge, are familiar illustrations of the truth of the proposition that foods of such a class, well cooked, with abundance of fresh milk,—occasional supplies of animal food and a variety of vegetables—are types of diets for healthy men, engaged in active out-door occupations or exercise. We must not, however, be supposed to lay too great stress on the importance *per se* of

“The halesome *Parritch*, chief o’ Scotia’s food;”

or even of its appropriate accompaniment milk,—though of all composite Foods the latter is avowedly the most nutrient—the most natural. We refer rather to the simple class of diets, of which porridge and milk are but a type or example. There are few, if any fluids, we can substitute with advantage for milk: but we can supply instead of unvarying oatmeal, such cereal flours as wheat, rye, or barley meal,—or such leguminous flours as pease, lentils *et hoc genus omne*; so as to secure sufficient variety with a high nutritive power in all cases.

TABLE SHOWING THE AVERAGE WEEKLY CONSUMPT OF EACH MALE WORKING PAUPER.

Pauper Dietary.

|                                                                                                                                                              | Actual<br>Consumpt of<br>Food in oz.<br>Avoirdupois. | Per Centage of Solid Nutriment in oz.<br>Avoirdupois. |                     |                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------|---------------------|---------------------------|
|                                                                                                                                                              |                                                      | Nitro-<br>genous.                                     | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Meat— <i>a.</i> —Butcher-meat — (Beef, Mutton,<br>Pork,—all of best quality),<br><i>b.</i> —Poultry, Rabbits, and Game,<br><i>c.</i> —White Fish, .. .. . | 35*                                                  | 5.25                                                  | 8.40                | 13.65                     |
| 2. Eggs, (1) .. .. .                                                                                                                                         | 8                                                    | 1.20                                                  | 0.56                | 1.76                      |
| 3. Cheese—best Gouda, .. .. .                                                                                                                                | 6                                                    | 2.88                                                  | 1.80                | 4.68                      |
| 4. Milk—Sweet—average sp. gr. 1032 ..                                                                                                                        | 133                                                  | 5.32                                                  | 10.64               | 15.96                     |
| 5. Bread,—White—best quality of Wheat,                                                                                                                       | 104                                                  | 8.32                                                  | 54.08               | 62.40                     |
| 6. Oatmeal—best Scotch, .. .. .                                                                                                                              | 51                                                   | 8.67                                                  | 36.21               | 44.88                     |
| 7. Wheaten Flour—best, ... .. .                                                                                                                              | 7                                                    | 0.98                                                  | 4.97                | 5.95                      |
| 8. Barley—best Pot, .. .. .                                                                                                                                  | 4                                                    | 0.56                                                  | 2.88                | 3.44                      |
| 9. Rice, .. .. .                                                                                                                                             | 2                                                    | 0.12                                                  | 1.76                | 1.88                      |
| 10. Pease—split, .. .. .                                                                                                                                     | 3                                                    | 0.72                                                  | 1.77                | 2.49                      |
| 11. Sugar—average raw, .. .. .                                                                                                                               | 9                                                    | —                                                     | 5.88                | 5.88                      |
| 12. Butter—best Scotch salt, .. .. .                                                                                                                         | 5                                                    | —                                                     | 2.85                | 2.85                      |
| 13. Fat, Suet, and Lard, .. .. .                                                                                                                             | 5                                                    | —                                                     | 5.00                | 5.00                      |
| 14. Potatoes, .. .. .                                                                                                                                        | 68                                                   | 1.36                                                  | 17.00               | 18.36                     |
| 15. Miscellaneous Vegetables, .. .. .                                                                                                                        | 27                                                   | 0.81                                                  | 4.05                | 4.86                      |
| 16. Do. Fruits, .. .. .                                                                                                                                      |                                                      |                                                       |                     |                           |
| Mean <i>daily</i> consumpt per patient, ..                                                                                                                   | 66.70                                                | 5.17                                                  | 22.55               | 27.72                     |
| Abstract showing the relative Proportions<br>of Animal and Vegetable Food and Nut-<br>riment—                                                                |                                                      |                                                       |                     |                           |
| 1.—ANIMAL.— <i>a.</i> per Week, ..                                                                                                                           | 192.00                                               | 14.65                                                 | 29.25               | 43.90                     |
| Do. <i>b.</i> „ Day, ..                                                                                                                                      | 27.42                                                | 2.09                                                  | 4.18                | 6.27                      |
| 2.—VEGETABLE.— <i>a.</i> per Week, ..                                                                                                                        | 275.00                                               | 21.54                                                 | 128.60              | 150.14                    |
| Do, <i>b.</i> „ Day, ..                                                                                                                                      | 39.28                                                | 3.08                                                  | 18.37               | 21.45                     |

\* After deducting from a total of 53 oz., about 34 per cent., or 18 oz. for bones and fat.  
1. Occasionally only—when on sick list or extra diet.



This Pauper Dietary Table does not exhibit, nor can any such table, however skilfully drawn up, adequately set forth or explain the extent to which the Food of the pauper class of patients is added to, or varied, by the remnants of meals of the higher classes; the changes that are frequently introduced when some special article of diet is scarce, such as milk, fish or fruit, or another abundant; the variations of diet with season,—the greater abundance of vegetables and fruits,—of farinacea and milk,—in the summer diet—and of meat and bread, dumplings and puddings in that of winter.

The Dietary for the Intermediate Classes\* of patients seems susceptible of improvement, especially in regard to the amount of the nitrogenous constituents of the foods supplied. This deficiency we would rectify or supply by a certain amount of porridge diet to breakfast, with a corresponding increase of milk, rendering such diet, however, optional : by a considerable increase in the allowance of cheese : by a larger consumpt of eggs, in the form chiefly of puddings of various kinds : by a greater use of pease, in the form of pea-soup or pudding, or by the substitution of equivalent quantities of similar leguminous flours, such as revalenta, in the form of soups or puddings : by the use of such substances as macaroni and vermicelli : by a greater approximation, in a word, to the Maximum Pauper Dietary, which would imply the substitution of more solid and nutritive foods for the tea and coffee and farinaceous diets presently in use.†

In all classes of our Dietaries we would strongly urge the substitution of *Cocoa*, in some of its many and pleasant forms, for tea and coffee—to a certain extent at least. We would by no means discard tea and coffee, which in certain cases might be preferable as mere neurotics to cocoa. They have become national beverages—whether rightly or wrongly, especially in comparison with other beverages that might be substituted, we do not seek here to inquire : all classes of society, including the lower orders, are now so wedded to the use of tea that it is too generally impossible to persuade them to give up its use in favour of chocolate : old-standing prejudices and habits are, under all circumstances, difficult of removal : and we do not consider an Hospital for the Insane the proper place—taking advantage of the helplessness of our charges—to introduce compulsory reforms in diet, which are too likely to be regarded as arbitrary punishments. As a beverage for habitual use there is no comparison between cocoa on the one hand, and tea and coffee on the other ; all 3 substances possess the same kind and amount of stimulant or calmative alkaloids : Theine in the case of the 2 latter, Theobromine in that of the former. Theobromine is, however, richer in nitrogen than Theine, the active principle of

Variations in  
Pauper Dietary.

Dietaries for  
Intermediate  
Classes.

Proportion of  
Nitrogenous  
Nutriment.

Cocoa : as a sub-  
stitute for Tea  
and Coffee.

Their respective  
uses & compara-  
tive advantages.

\* *Vide* Appendix, Pages 14 and 27.

† We would also strongly commend the introduction to a large extent—as a garnishing to meats, or as an ingredient of soups and stews—of leeks and onions—especially Portugal onions. As compared with other classes of vegetables usually presented at table, Onions are highly nitrogenous and nutritious : so much so that, in the Navy Ration-Regulations, they rank as of four times the nutritive value of any other kind of vegetables generally used as food.

tea and coffee ; and this may be supposed to be an advantage when we bear in mind that it is on the amount of this element, nitrogen, that the plastic or tissue-forming power of foods has been proved to depend. As we use them in this country, tea and coffee cannot be said, in any true sense of the term, to be foods proper ; they do not add solid matter to the fabric of the body ; they are pure stimulants or alteratives, belonging to the category of Dietetic Medicines—having, however, as such, important uses in the economy. Though the soda, so commonly added by the careful housewife to “soften” the water in which tea is infused, or coffee boiled, enables the said water to dissolve out a small proportion thereof, we may be said, in our mode of preparing them, habitually to waste the nitrogenous or solid nutriment of tea and coffee, which in the one case resides in the leaves, and in the other in the berry—neither leaves nor berry being themselves by us consumed. On the other hand, chocolate, or any form in which the whole cocoa bean is presented, while belonging with tea and coffee to the class of Dietetic medicines, pertains equally to the category of foods proper. It has the advantage of containing no less than 50 per cent. of butter, 20 of albumen, and 7 of starch—in other words, 22 per cent. of nitrogenous, and 69 of carboniferous, constituents ; and thus it supplies solid nutriment to the extent of 91 per cent.—a circumstance that gives it a high position as a food proper, leaving out of view its advantages as a merely stimulant beverage.

Mal-preparation  
of Tea and Coffee.

Cocoa a Food  
proper.

Comparison be-  
tween Dietaries  
of Patients and  
Staff.

Dietary for  
Attendants.

It has appeared to us desirable to contrast the Dietaries of the Patients with those of various classes or grades of the Staff of the Institution. The only dietary superior, as respects the amount of dry nutriment supplied, to that of the Pauper, is that of the Attendants and Servants. The difference in favour of this class of officers is strictly in accordance with physiological principles: and is dictated equally by science, policy, and economy. The attendants and servants are all picked individuals—selected, among other qualities, for their physical robustness: they are thus generally eminently healthy and able-bodied—especially in contrast with the fragile physique or depraved vitality of the patients as a class; they are called upon to undergo or undertake a large amount of physical labour, especially such of them as work in the garden and grounds or in the laundry ; and all of them have a large modicum of open-air exercise. Further, their duties involve a large measure of mental labour, care, anxiety, and responsibility, from which the patients are entirely free. The operation of such a cause can only be duly estimated by the light of the recent researches of Professor Haughton, of Dublin, and others, on the influence of mental labour and of mental anxiety as a cause of



physical exhaustion and of tissue-waste. The physiological requirements of the system are, therefore, much greater than in the case of pauper patients—even the out-door working classes thereof; the tissue-waste is greater, and its due repair or replacement is demanded at the expense of a correspondingly larger amount of substantial nutriment. Moreover, in the case of our attendants and servants, a certain amount of *work is exacted* and obtained; the food is supplied specially with a view to this end, and must be correspondingly liberal and nutritious, else we fail in our object. Dr Letheby\* shows that the same man, who, while leading simply a vegetative life, requires for the performance of the vital operations a daily average of 16 oz. of solid nutriment, must have, when he becomes a soldier, 24 oz., and when he becomes a Yorkshire labourer or railway navvy, 51 oz. All statistics go to prove that work and food stand in an intimate or inseparable relation to each other; and that, where a high quality, or large amount of work, whether bodily or mental, is required, the food-supply must be correspondingly liberal. Such a procedure is the most economic as well as the most scientific. Whatever improves physical health or maintains it at its highest degree or point of usefulness is economical, inasmuch as it secures the largest possible return in work in proportion to the expenditure in food; inasmuch as disease and ill health are always expensive, always attended with, or lead to, loss in a great variety of ways. Even in a financial or pecuniary point of view—in the merely mercantile or profit-and-loss aspect of the question—it is clearly our best policy or interest to supply a class of officers, on whose vigour of body and mind so much of the prosperity or usefulness of an Asylum depends, with an abundant and adequate supply of the most suitable nutriment. On the other hand, we do not supply food to our Patients *in order that they may work*; but they work in order that they may properly digest their food, and generally improve their physical and mental health. The 2 classes of persons we have been contrasting—Attendants and servants of the Institution on the one hand, and Pauper patients on the other—are, in this respect, quite differently circumstanced. The one class is here as workers—paid and fed as such; the more work they contribute, the more useful they are,—the more profitable and satisfactory our investment in their services. The other class comes here as patients to be treated for mental, and generally also for associated physical, disease; in a large proportion of cases work is impossible or inexpedient; and where it is both possible and expedient, it is prescribed just as *regimen*, medicine or moral treatment is prescribed,—as a remedial measure, its nature and amount being suited carefully to the capabilities or requirements

Food in relation to work.

Economy and policy of liberal Dieting.

Insane in position of Invalids in relation to Diet.

\* Vide Table IX. Appendix, page 24.

of each individual. This is a circumstance requiring to be borne in mind in instituting also any comparison between the Dietaries of our patients and those of soldiers or sailors, labourers or navvies, who are fed specially with a view to the exaction of work, and that generally of a severe physical character. Our Dietaries are more fairly comparable with those of a general Hospital or Infirmary, the inmates of which are patients under treatment for a variety of physical ills, and subject to a certain amount or degree of restraint, confinement, or discipline—who are, more or less, for the time being, sedentary in their habits or occupations.

TABLE SHOWING THE AVERAGE WEEKLY CONSUMPT PER PERSON BY ATTENDANTS AND SERVANTS.\* †

|                                                                                       | Actual Consumpt of Food in oz. Avoirdupois. | Per Centage of Solid Nutriment in oz. Avoirdupois. |                     |                           |
|---------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------|---------------------|---------------------------|
|                                                                                       |                                             | Nitro-<br>genous.                                  | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Meat— <i>a.</i> —Butcher-meat — (Beef, Mutton, Pork,) .. .. .                      | 60 (2)                                      | 9·00                                               | 14·40               | 23·40                     |
| <i>b.</i> —Poultry, Rabbits, and Game, .. .. .                                        | 10 (3)                                      | 1·50                                               | 2·40                | 3·90                      |
| <i>c.</i> —White Fish, .. .. .                                                        | 12                                          | 1·80                                               | 0·84                | 2·64                      |
| 2. Eggs, (1) .. .. .                                                                  | —                                           | —                                                  | —                   | —                         |
| 3. Cheese, .. .. .                                                                    | 14                                          | 6·72                                               | 4·20                | 10·92                     |
| 4. Milk—Sweet— <i>sp. gr.</i> 1030-5, .. .. .                                         | 70                                          | 2·80                                               | 5·60                | 8·40                      |
| 5. Bread, .. .. .                                                                     | 140                                         | 11·20                                              | 72·80               | 84·00                     |
| 6. Oatmeal, .. .. .                                                                   | —                                           | —                                                  | —                   | —                         |
| 7. Wheaten Flour, .. .. .                                                             | 2                                           | 0·28                                               | 1·42                | 1·70                      |
| 8. Barley, .. .. .                                                                    | 5                                           | 0·70                                               | 3·60                | 4·30                      |
| 9. Rice, .. .. .                                                                      | 2                                           | 0·10                                               | 1·70                | 1·80                      |
| 10. Pease—split, .. .. .                                                              | 5                                           | 0·72                                               | 1·77                | 2·49                      |
| 11. Sugar, .. .. .                                                                    | 16                                          | —                                                  | 15·68               | 15·68                     |
| 12. Butter, .. .. .                                                                   | 10                                          | —                                                  | 9·50                | 9·50                      |
| 13. Fat, Suet, and Lard, .. .. .                                                      | 4                                           | —                                                  | 4·00                | 4·00                      |
| 14. Potatoes, .. .. .                                                                 | 140                                         | 2·80                                               | 35·00               | 37·80                     |
| 15. Miscellaneous Vegetables, .. .. .                                                 | 28                                          | 1·02                                               | 5·10                | 6·12                      |
| 16. Do. Fruits, .. .. .                                                               | 6                                           | —                                                  | —                   | —                         |
| Mean <i>daily</i> consumpt per person, .. .. .                                        | —                                           | 5·52                                               | 25·43               | 30·95                     |
| Abstract showing the relative Proportions of Animal and Vegetable Food and Nutriment— |                                             |                                                    |                     |                           |
| 1.—ANIMAL.— <i>a.</i> per Week, .. .. .                                               | 180·00                                      | 21·82                                              | 40·94               | 62·76                     |
| Do. <i>b.</i> „ Day, .. .. .                                                          | 25·71                                       | 3·12                                               | 5·85                | 8·97                      |
| 2.—VEGETABLE.— <i>a.</i> per Week, .. .. .                                            | 344·00                                      | 16·82                                              | 137·07              | 153·89                    |
| Do, <i>b.</i> „ Day, .. .. .                                                          | 49·14                                       | 2·40                                               | 19·58               | 21·98                     |

its peculiarities. A peculiarity of the Dietary for Attendants and Servants resides in the absence therefrom of *Oatmeal* in any form. They have the option of a porridge and milk or tea and coffee diet, morning and evening; and they universally prefer the latter. Herein they not only show their bad taste, but their ignorance, or disregard, of the comparative nutritive value, and of the physiology, of foods. Unfortunately undoubtedly for themselves, they share in the prejudices of the classes of society above them, and regard the most expensive diet as necessarily the best and most desirable—looking down on such

Preference of Tea and Coffee Diets.

1. Only occasionally—when on night duty—in lieu of meat or cheese.  
2. After deducting about one-third or 33 per cent. for bone, suet, &c.  
3. Do. do. one-fifth or 20 per cent. for bone, &c.  
\* Mean of both sexes.  
† *Vide* Appendix, Table IV. page 18.



articles as porridge, and brown or coarse bread, as inferior and despicable. With such prejudices, opinions and habits, it is inexpedient to render compulsory a diet, which is regarded, though most unjustly and erroneously, as coarse, inferior, and degrading, or to force upon any class, either of officers or patients, what is considered a punishment, while it is intended as, and is really, a boon. Past experience has proved that the use of such a diet as porridge and milk is looked upon as an indignity, and resented as such: though it is greatly to be regretted this should be the case. Under existing circumstances, we can only offer the option of selecting a diet inferior in nutritive power, albeit it is not inferior also in cost; trusting that, in due time, the excellent class of officials, whose best interests we have under review or consideration, may be educated, or led spontaneously, to adopt a wiser procedure.

Dietetic Punishments.

The Dietary of the resident Officers\* of the establishment represents, as to quantity, quality, and variety (the 3 cardinal points of Diet) that of the average of the middle and upper ranks of society, who have the freedom of purchasing what food they please, and using it as taste may dictate. We can speak of it from long personal experience and use as quite sufficient, in respect of the quantity and kind of solid nutriment supplied, for adults of either sex, in the most affluent positions in society.

Dietary for Resident Officers.

TABLE SHOWING THE AVERAGE DAILY CONSUMPT BY THE PHYSICIAN.

Dietary of Physician.

|                                                                                            | Actual Consumpt of Food in oz. Avoirdupois. | Per Centage of Solid Nutriment in oz. Avoirdupois. |                     |                           |
|--------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------|---------------------|---------------------------|
|                                                                                            |                                             | Nitro-<br>genous.                                  | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Breakfast—8 A.M.—                                                                       |                                             |                                                    |                     |                           |
| Bread—best wheaten—white, ..                                                               | 8.00                                        | —                                                  | —                   | —                         |
| Butter—salt or fresh—best Scotch, ..                                                       | 2.00                                        | —                                                  | —                   | —                         |
| Eggs—(deducting 0.25 to 0.60 per cent. for shell), ..                                      | 4.00                                        | —                                                  | —                   | —                         |
| Milk—sp. gr. 1035—sweet or skimmed, ..                                                     | 3.00                                        | —                                                  | —                   | —                         |
| Cocoa (nibs), .. ..                                                                        | 0.25                                        | —                                                  | —                   | —                         |
| 2. Lunch—1 P.M.—                                                                           |                                             |                                                    |                     |                           |
| Bread, .. ..                                                                               | 3.00                                        | —                                                  | —                   | —                         |
| 3. Dinner and Tea—6 P.M.—                                                                  |                                             |                                                    |                     |                           |
| Meat—fresh—lean—without bone—(beef or mutton),† ..                                         | 7.00                                        | —                                                  | —                   | —                         |
| Bread, .. ..                                                                               | 6.00                                        | —                                                  | —                   | —                         |
| Butter, .. ..                                                                              | 1.00                                        | —                                                  | —                   | —                         |
| Milk, .. ..                                                                                | 3.00                                        | —                                                  | —                   | —                         |
| Cocoa (nibs), .. ..                                                                        | 0.25                                        | —                                                  | —                   | —                         |
| Total or aggregate consumpt per day—                                                       |                                             |                                                    |                     |                           |
| Meat, .. ..                                                                                | 7.00                                        | 1.05                                               | 1.68                | 2.73                      |
| Bread, .. ..                                                                               | 17.00                                       | 1.36                                               | 8.84                | 10.20                     |
| Milk, .. ..                                                                                | 6.00                                        | 0.24                                               | 0.48                | 0.72                      |
| Cocoa, .. ..                                                                               | 0.50                                        | 0.11                                               | 0.36                | 0.47                      |
| Eggs, .. ..                                                                                | 4.00                                        | 0.52                                               | 0.48                | 1.00                      |
| Butter, .. ..                                                                              | 3.00                                        | —                                                  | 2.85                | 2.85                      |
| Total, .. ..                                                                               | —                                           | 3.28                                               | 14.69               | 17.97                     |
| Abstract showing the relative Proportions of Animal and Vegetable Food and Nutri-<br>ment— |                                             |                                                    |                     |                           |
| 1. Animal, .. ..                                                                           | 20.00                                       | 1.81                                               | 5.49                | 7.30                      |
| 2. Vegetable, .. ..                                                                        | 17.50                                       | 1.47                                               | 9.20                | 10.67                     |

\* Vide Table XV., Appendix, page 28.  
† Occasional substitution of poultry, or white fish (haddock or cod).

The Dietary of the Physician is the result of actual daily measurement and experiment, and is consequently more accurate and precise in its figures than the other dietaries can be. It is given as an ample, typical dietary, under ordinary circumstances of work, exercise, and health, for adult males, of from 30 to 50 years of age. It represents the average daily consumpt, we believe, of a large proportion of males in the middle and upper classes of society; such especially as, on account of the character of their professional avocations, or their natural habits or tastes, lead comparatively sedentary lives. We refer, for instance, to a large proportion of the medical, legal, and clerical professions—to litterateurs and scientific men—to merchants and their clerks, and to the officers of all grades in various departments of H.M. Civil Service. This and the preceding class of dietary are, as compared with the others which have been reviewed, practically unlimited. No restriction is placed on the quantity or quality of food: on the amount of the nitrogenous and carboniferous constituents respectively; nor on their proportion to each other. Taste, fancy, means have been permitted to select what were considered the best foods of different classes; and yet the result is, as compared with the regulation or compulsory dietaries of this Institution, that the latter are greatly superior to the former in regard to their substantiality, or the proportion of solid nutriment they contain. Hence, again, it would appear that the more expensive and varied diets of the affluent cannot compare with the coarser, simpler, and more economic fare of the pauper—looking simply to the nutritiveness of foods, relative to the wants of the healthy

ABSTRACT OF TABLES ILLUSTRATIVE OF THE NUTRITIVE VALUE  
OF THE DIETARIES OF MURRAY'S ROYAL INSTITUTION:

*showing the average daily consumpt per person of dry or solid nutriment in food.*

|                                                                |                | Per Centage of Solid Nutriment in oz.<br>Avoirdupois. |                     |                           |
|----------------------------------------------------------------|----------------|-------------------------------------------------------|---------------------|---------------------------|
|                                                                |                | Nitro-<br>genous.                                     | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| I.—PATIENTS.                                                   |                |                                                       |                     |                           |
| 1. Paupers—                                                    |                |                                                       |                     |                           |
| a. Male working paupers, ..                                    | ..             | 5·17                                                  | 22·55               | 27·72                     |
| b. General average—estimate by Dr                              | a. Males, ..   | 5·25                                                  | 17·00               | 22·25                     |
| Murray Thomson, ..                                             | b. Females, .. | 4·00                                                  | 13·75               | 17·75                     |
| 2. Intermediate classes—general average, ..                    | ..             | 3·94                                                  | 21·77               | 25·71                     |
| 3. Higher do. do., ..                                          | ..             | 4·57                                                  | 23·27               | 27·84                     |
| 4. General average of the whole inmates of the Institution, .. | ..             | 4·30                                                  | 20·82               | 25·12                     |
| Mean of the foregoing 6 classes of Dietaries, ..               | ..             | 4·54                                                  | 19·86               | 24·40                     |
| II.—STAFF OF THE INSTITUTION.                                  |                |                                                       |                     |                           |
| 5. Attendants and servants, ..                                 | ..             | 5·52                                                  | 25·43               | 30·95                     |
| 6. Officers, ..                                                | ..             | 3·34                                                  | 15·38               | 18·72                     |
| 7. Physician, ..                                               | ..             | 3·28                                                  | 14·69               | 17·97                     |
| Mean of the foregoing 3 classes of Dietaries, ..               | ..             | 4·05                                                  | 18·50               | 22·55                     |



system. A comparison of all the classes of the Dietaries of this Institution—including alike those of the patients and of the staff—brings out the fact that the highest in rank, in regard to its abundance of solid nutriment, is that of the Attendants, while the lowest is that of the Physician :—that of the out-door working male paupers ranking next to the attendants' dietary in point of superiority, while that of the resident Officers ranks next that of the Physician as respects inferiority.

We have thought it proper also to institute such comparison as was possible or legitimate between our Dietaries and those of various public institutions of a kindred class—those of the public services, and those of certain classes of the general population—with a view to ascertain or fix the position which the dietaries of this Institution hold, in regard to their nutritive value, in relation to public dietaries in general. We are enabled to do this, so far as is necessary or desirable, by two tables or extracts therefrom—published by Dr Letheby and Dr Lankester respectively.\* From them it would appear that our pauper dietary, as given at page 38, stands far above the physiological requirements of the healthy adult :—far above the dietaries of public general hospitals ; of public lunatic asylums—British and foreign ; of British paupers ; of indigent old men or pensioners ; as well as above those of the army and navy—even of soldiers and sailors on active service. The only classes of persons having a fuller or superior dietary, in point of the quantity of solid nutriment supplied, are navvies and labourers, whose immense amount of physical work calls for a correspondingly large supply of substantial nourishment.

We have already pointed out that our dietaries are not fairly comparable with those of healthy adults, capable of, and called upon for, a habitually large expenditure of physical force and substance—such as soldiers, sailors, navvies, and labourers. Those of a General Hospital or Infirmary are more analogous to those of an Hospital for the Insane, insofar as the consumers are more of the same class—that of invalids—with a lowered vitality or vitiated physique, in whom peculiarities of physical and mental health, of natural constitution, of present habits, occupation, and exercise, call for various departures or differences from the dietaries adapted to their more vigorous and more fortunate fellows. Such is the proportion in every asylum of aged, feeble, and helpless inmates—of the paralytic and childish, of the sick and dying, of cases requiring sustenance for long periods by artificial means, that our actual dietaries resemble greatly in their number and variety, as well as, to a certain extent, in their kind, the numerous diets of a well-regulated public general hospital. As a

Comparison between Dietaries of this Institution and other Public Dietaries.

Comparison with Infirmary Dietaries.

\* Tables IX. and X. Appendix, pp. 24 & 25.

Dietaries of  
Royal Infirmary  
of Edinburgh.

specimen of the dietaries of public general hospitals, we select those of the Royal Infirmary of Edinburgh,\* both because we are best acquainted with that institution and its classes of inmates, having spent a portion of our medical novitiate within its walls, and in its service; and because its dietary tables have been drawn up with unusual care by some of our most eminent authorities on Dietetics, especially Professor Christison. These dietaries illustrate the following points of considerable interest as bearing on the whole question under consideration:—

Minimum Nutri-  
ment necessary  
to sustenance of  
Life.

1. The small quantity of dry nutriment that is requisite simply to sustain life in the best possible way; and at the same time the maximum that is admissible in certain states of physical health or disease:—about  $7\frac{1}{2}$  oz. per day in the case of “*low diet*.” This is of importance in connection with the compulsory alimentation cases to be found in the wards of every asylum, where sustenance is persistently and perversely refused for long periods, and where feeding by the stomach-pump or injection apparatus becomes necessary.

Average daily  
consumpt per  
person of solid  
Nutriment.

2. The ordinary or most common diet of convalescent infirmary patients,—whose physical condition is probably not below that of the majority of the inmates of public asylums,—contains a daily average of from  $13\frac{1}{2}$  to 19 oz. solid nutriment, the mean being 16 oz., an amount that falls far short of that supplied in the dietaries of this Institution.

Profuseness not  
a measure of  
Fitness.

3. The mean of all classes of dietaries (amounting to 9) gives an average allowance per day of about 15 oz. only of solid nutriment. This would *pro tanto* lead to the inference that the allowance of solid nutriment in this Institution is *excessive*; and that dietaries, fullest or most profuse in respect of their proportion of solid nutriment, are not those necessarily best adapted to the community of Hospitals for the curative treatment of sane or insane Invalids.

\* *Vide* Tables VII. and VIII., Appendix page 25.



COMPARISON, IN RESPECT OF NUTRITIVE VALUE, BETWEEN THE GOVERNMENT DIET TABLES FOR THE LUNATIC WARDS OF POORHOUSES IN SCOTLAND,† AND THE DIETARIES OF MURRAY’S ROYAL INSTITUTION.

Dietaries for Lunatic Wards of Poorhouses.

|                                                                                                                                                                                           |                       | Average Daily Allowance or Consumpt<br>per Person of Solid Nutriment in oz.<br>Avoirdupois. |                     |                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------|---------------------|---------------------------|
|                                                                                                                                                                                           |                       | Nitro-<br>genous.                                                                           | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| I.—POORHOUSE DIETARIES.                                                                                                                                                                   |                       |                                                                                             |                     |                           |
| 1. <i>Minimum</i> scale—according to clause 11 of the “Regulations” anent Poorhouse Lunatic Wards—issued by the Board of Lunacy for Scotland in Septem., 1862—                            | Regulation Allowance. |                                                                                             |                     |                           |
| <i>a.</i> Males,           ..           ..           ..           ..           ..                                                                                                         |                       | 5·00                                                                                        | 15·00               | 20·00                     |
| <i>b.</i> Females,       ..           ..           ..           ..           ..                                                                                                           |                       | 5·00                                                                                        | 13·00               | 18·00                     |
| <i>c.</i> Mean of both sexes, ..           ..           ..           ..                                                                                                                   |                       | 5·00                                                                                        | 14·00               | 19·00                     |
| 2. <i>Maximum</i> scale for out-door working <i>males</i> —deduced from the Diet Tables contained in the “Regulations”, aforesaid, ..           ..           ..           ..           .. |                       | 6·10                                                                                        | 20·31               | 26·41                     |
| 3. <i>Minimum</i> scale for all classes of <i>males</i> —deduced from same Tables, ..           ..           ..           ..           ..                                                 |                       | 4·38                                                                                        | 17·10               | 21·48                     |
| 4. <i>Mean</i> of the foregoing Maximum and Minimum Scales,                                                                                                                               |                       | 5·24                                                                                        | 18·70               | 23·94                     |
| II.—MURRAY’S ROYAL INSTITUTION DIETARIES.                                                                                                                                                 |                       |                                                                                             |                     |                           |
| 5. Male Working Paupers, ..           ..           ..           ..                                                                                                                        | Actual Consumpt.      | 5·17                                                                                        | 22·55               | 27·72                     |
| 6. Average of all classes of Patients of both sexes, ..           ..                                                                                                                      |                       | 4·30                                                                                        | 20·82               | 25·12                     |
| 7. Attendants and Servants, ..           ..           ..           ..                                                                                                                     |                       | 5·52                                                                                        | 25·43               | 30·95                     |
| 8. Mean of <i>five</i> classes of Dietaries,* ..           ..           ..                                                                                                                |                       | 4·70                                                                                        | 22·77               | 27·47                     |

The most recent, and at the same time among the best, Dietary Tables with which we can compare certain classes of those of this Institution are those lately drawn up by the Commissioners in Lunacy for Scotland, with the sanction, or under the counsel, of Professor Christison, for the Lunatic Wards of Poorhouses. In their regulations anent the said Lunatic Wards (clause 11) the Commissioners fix the minimum scale of diet as follows :—“The diet shall be regulated by “the tables appended to the present rules, or by tables specially sanc- “tioned by the Board for individual poorhouses ; but all such special “tables shall show a *daily minimum average quantity of twenty ounces* “*of dry nutriment for each male, and of eighteen ounces of dry nutri-* “*ment for each female, of which at least five ounces shall in each case be* “NITROGENOUS.” The diet tables or scales for both sexes referred to are admirable, both as to the quantity, quality, and variety of food. The great advantage, however, of such diet tables or regulations seems to reside in the fact that a dietary so ample *secures a sufficiency of nutriment to every inmate by providing excess.* For the mere physio- logical wants of the system so large an amount of dry nutriment is unnecessary—in relation to the classes of the community for which these dietaries are provided ; and, indeed in relation to any classes of the general population—save in the case of hard-working, able-bodied

Proportion of Nitrogenous to Carboniferous Nutriment.

Sufficiency, by excess, of Nutri-  
ment.

\* Vide Table X. Appendix, page 25.  
† Vide also Tables V. and VI., Appendix pp. 20-22

adults—the proportion appears excessive. The error, however, if error it be, is on the safe and right side. More especially do the *nitrogenous* constituents seem superabundant; seeing our tables show that 3·50 oz. per day suffice for large classes of the population in this country; and so large an amount as 5 oz. can scarcely be required by constitutions such as those of the inmates of the lunatic wards of poorhouses. There is perhaps less excess as regards carboniferous constituents, inasmuch as our statistics show 10 to 15 oz. per day to be a fair average requirement and allowance.

General considerations on Dietaries.

There are certain general considerations by which we have further to measure the fitness of our Dietaries in reference to the specific use or purpose for which they are intended. These refer, on the one hand, to certain qualities in a diet itself; and, on the other, to certain qualities in its recipient or consumer: without a combination of which 2 classes of qualities no diet can be properly suited for its great aim and end—that of healthy nutrition. The qualities in the diet itself, constituting its *nutritiveness* and *fitness*, are the following:—

Qualities constituting Nutritiveness.

1. Its quantity—especially in relation to the amount of dry or solid nutriment. This head may properly embrace the proportion to each other of the nitrogenous and carboniferous constituents of the foods forming the diet.
2. Its quality—including a consideration of the
  - a. Chemical composition of foods.
  - b. Their mechanical properties.
  - c. Their digestibility.
  - d. The relative proportions of animal and vegetable sustenance.
  - e. The nature and amount of combinations or intermixtures.
3. Its variety—especially in relation to season, occupation, exercise, habit, constitution, &c.
4. Its condition in relation to cooking:—as bearing on loss of weight, and the superior nutritiveness and digestibility of the same foods, under different circumstances of preparation. Here may appropriately be associated, more however in a psychical and æsthetical, than in a physical sense, the mode of serving foods.
5. The addition or use of various accessories (chiefly of the stimulant and alterative class, falling under the category of Dietetic medicines) as aids to digestion.

Digestive capacity of Consumer.

The qualities in the recipient or consumer are mainly his—

1. Physical condition
  2. Mental condition
  3. Idiosyncrasies and peculiarities of nervous organisation and
- } as to health or disease.



influence—including the natural and the morbid—congenital and acquired.

4. Habits as to *a*. Occupation, especially the nature and amount of physical labour.

*b*. Exercise, especially the proportion which is out-door and of an active character.

*c*. Food—previously acquired or formed, including depraved and unnatural tastes.

In all considerations as to the *quantity* of foods necessary to the constitution of a normal, model or typical Dietary for any class of persons, it is necessary, as a preliminary, to secure a *standard* by determining what are the *physiological requirements of the system in health*; what is the average amount necessary for the support of life in the best possible way: what will maintain in an adult the weight of his body unchanged, during the vigour of life under ordinary or average circumstances or conditions as to health, occupation, and exercise. Dr Letheby states the amount so required at 4 oz. nitrogenous; 12 oz. carboniferous; and 16 oz. total solid nutriment per day. This is probably a theoretical estimate, based on the chemistry and physiology of food in the abstract. Subjoined are 2 careful estimates apparently of a more practical character, representing the actual average daily *consumpt* by the healthy male adult. Their mean gives round numbers  $3\frac{1}{2}$  oz. nitrogenous;  $15\frac{1}{2}$  oz. carboniferous; and 19 oz. total solid nutriment.

Physiological requirements of system as to quantity of food.

Different estimates of average for healthy adult.

TABLE SHOWING TWO ESTIMATES OF THE PHYSIOLOGICAL DAILY REQUIREMENTS OF SOLID NUTRIMENT BY THE HEALTHY MALE ADULT SYSTEM.

|                                                                                                                                                                                                             |    |     |    |    |    | Rough<br>Weight of<br>Food in oz.<br>Avoirdupois. | Per Centage † of Solid Nutriment in oz.<br>Avoirdupois. |                     |                          |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|----|----|----|---------------------------------------------------|---------------------------------------------------------|---------------------|--------------------------|--|
|                                                                                                                                                                                                             |    |     |    |    |    |                                                   | Nitro-<br>genous.                                       | Carboni-<br>ferous. | Total Solid<br>Nutriment |  |
| I.—Result of actual experiment by Dr Dalton<br>—representing the quantity required and<br>consumed in 24 hours by a man in full<br>health,—taking free exercise in the<br>open-air—*                        |    |     |    |    |    |                                                   |                                                         |                     |                          |  |
| 1. Meat,                                                                                                                                                                                                    | .. | ... | .. | .. | .. | 16·00                                             | 2·40                                                    | 3·84                | 6·24                     |  |
| 2. Bread,                                                                                                                                                                                                   | .. | ..  | .. | .. | .. | 19·00                                             | 1·52                                                    | 9·88                | 11·40                    |  |
| 3. Butter (or fat),                                                                                                                                                                                         | .. | ..  | .. | .. | .. | 3·50                                              | —                                                       | 3·40                | 3·40                     |  |
| Total,                                                                                                                                                                                                      |    |     |    |    |    | —                                                 | 3·92                                                    | 17·12               | 21·04                    |  |
| II.—Average requirements of healthy men,—<br>engaged in average physical labour and<br>taking average open-air exercise—(being<br>the mean of the most recent experimen-<br>tal results of Physiologists)—* |    |     |    |    |    |                                                   |                                                         |                     |                          |  |
| 1. Meat,                                                                                                                                                                                                    | .. | ..  | .. | .. | .. | 12·00                                             | 1·80                                                    | 2·88                | 4·68                     |  |
| 2. Bread,                                                                                                                                                                                                   | .. | ..  | .. | .. | .. | 20·00                                             | 1·60                                                    | 10·40               | 12·00                    |  |
| 3. Butter,                                                                                                                                                                                                  | .. | ..  | .. | .. | .. | 0·50                                              | —                                                       | 0·47                | 0·47                     |  |
| Total,                                                                                                                                                                                                      |    |     |    |    |    | —                                                 | 3·40                                                    | 13·75               | 17·15                    |  |
| Mean of 2 series of estimates,                                                                                                                                                                              |    |     |    |    |    | —                                                 | 3·66                                                    | 15·43               | 19·09                    |  |

\* "Cornhill Magazine:" Article on "Food: how to take it." Vol. IV., 1861., Page 288.

† This and all other calculations of per centage of solid Nutriment are made on the basis of our Standard Table. (Vide Page 31.)

Personal  
conclusions.

Our own inquiries lead us to the following conclusion or result :—that, in relation to all classes of the general population of this country—including alike the rich and poor—healthy and infirm—industrious and idle—of both sexes, a diet, which embraces a daily average allowance of from  $3\frac{1}{2}$  to 5 oz. dry nitrogenous, and from 1 to 20 oz. dry carboniferous nutriment—including a due proportion of salts—that is, from 15 to 25 oz. total solid nutriment—is an ample and sufficient one—regarded simply as a type or standard. In regard to the special population of our Public Lunatic Asylums, we have been further led to consider a fair average dietary as one comprising 4 oz. nitrogenous, and 13 oz. carboniferous and mineral, or 17 oz. total solid nutriment: while one containing 5 oz. of nitrogenous and from 15 to 20 oz. of carboniferous and mineral food is *ample to excess*, and is far beyond either the physiological requirements, or the digestive and assimilative capacity, of the majority of the patients.

Proportion of  
Nitrogenous to  
Carboniferous  
constituents of  
Food.

The proportion which the nitrogenous bear to the carboniferous constituents of food, in various estimates of the physiological requirements of the system, as well as in various public Dietaries, is set forth in a table we have carefully compiled from the highest authorities. Professor Liebig, and following him Professor Gregory of Edinburgh regard the best proportion for a working man in health as 5 parts carboniferous to 1 part of nitrogenous nutriment; while Dr Letheby lays down the higher proportion of 3 to 1, and other estimates as 4 to 1. Whether Liebig be right or wrong in his estimate, it happens that the Dietaries of this Institution come nearer his standard than any others in the table in question—representing the proportion of 4 to 1; while in the very excellent diet scales for the Lunatic Wards and Poorhouses, the proportion stands at about 3 to 1. This proportion of relation, whatever it may be, and which must vary with circumstance requires nice adjustment: otherwise there must result, on the one hand, great loss of material, or, on the other, depraved vitality or disease from inadequate nutrition. A deficiency, for instance, of the carboniferous element in diet necessitates an enormous and extravagant use of nitrogenous constituents for the purpose of maintaining the animal heat. Professor Gregory estimates (after Liebig) the quantity of fresh lean meat required to yield the same amount or degree of animal heat as 100 parts of fat, at 770 parts or upwards of 8 times as much; of rice, equivalent for the same purpose to 33 parts of fat pork, at 123 or nearly 4 times as much. The converse is equally true, an enormous expenditure of the more properly carboniferous or farinaceous foods being called for by any shortcoming among those that are more strictly nitrogenous. The same high authority calculates

Necessity for  
due adjustment.

Nitrogenous and  
Carboniferous  
Foods as mutually  
substitutional.



ates that as substitutes, the one for the other, the equivalent of 27 parts lean beef is 125 parts of potatoes or about 5 times as much. It is necessary here to remember further that the quantity of food available for nutrition is limited to a certain extent by its bulk, and the physical capacity and digestive power of the stomach; hence large masses of such articles of food as rice or potatoes are, in ordinary circumstances, in this country, quite inadmissible. The proportion that ought to subsist between the nitrogenous and carboniferous constituents of foods must be judged of by various considerations to follow. The sedentary or passive, for instance, require less nitrogenous, and perhaps proportionally, more carboniferous food than the vigorous and active; and the diet most suitable for them as a class is probably to be found (selecting *types* always) in milk associated with the farinacea, or in a vegetarian diet. True it is that, under such circumstances, "a less vigorous life may thus result; but it may be the best attainable and the most truly balanced."\*

Bulk of Foods in relation to Digestion.

Judged by any of the standards or tests above enumerated or introduced, the Dietaries of this Institution must be considered as *at least ample*. The comparison with other Public Dietaries is decidedly and greatly in our favour; and it would undoubtedly have been so to a still greater extent had the nutritive value of *all* the said Dietaries been estimated by our Standard Table, which, as we have already pointed out, shows a much lower proportion or per centage, especially of nitrogenous components of foods, than the older Tables of a similar kind. Were each patient actually to consume the daily allowance specified as pertaining to or set apart for him, in perhaps a half or three-fourths of the whole population of this Institution the consumpt would greatly exceed the necessities of the system, under the circumstances in which our patients are placed. The result would inevitably be vitiated health, or diseases connected with satiety or excess of food,—a danger which is a real one in certain classes of Public Institutions in an age when it is popularly supposed impossible to *overfeed* the poor—the criminal—the insane.† But, in point of fact, while a few of our patients habitually consume with apparent benefit,—certainly at least with no apparent or obvious detriment,—a larger, sometimes a considerably larger, amount of solid nutriment than that specified as the individual allowance—even the maximum—for any class of our community, the majority consume less, frequently not half the

Amplitude of Dietaries of this Institution.

Differences between Regulation Dietaries and actual consumption of Food.

\* Cornhill Magazine, ol. citat. page 290.

† In the Convict Establishment at Freemantle, near Perth, Western Australia, the diet of the prisoners, in 1853, contained a daily allowance per person of 16 oz. fresh meat and 27 oz. bread;—the climate being hot and close,—the exercise insignificant,—the confinement great,—the occupations mostly sedentary. The result was the production of disease attributable or attributed to a diet, which was unnecessarily ample in relation to the requirements of the convicts under such conditions.—*Vide* Dr Rennie on "Excess of Diet as a Cause of Disease."—[Roy. Med. & Chirurg. Society of London, June 8, 1858.]

Loss by waste  
and surplus.

Advantage of  
Regulation  
Dietaries.

Qualities of  
Foods.

Purity or fineness  
not necessarily  
an advantage.

Occasional supe-  
riority of coarse,  
to fine, foods.

Brown bread.

regulation allowance, and equally with benefit or without physical detriment. There is moreover necessarily a considerable loss by surplus or waste, a proportion whereof, however, is replaced or restored in the form of pork,—our refuse food supplying our piggeries. The dietaries of all classes of our inmates are therefore not only ample; but they leave a wide margin after satiation according to the requirements of the systems of the patients, as determined mainly by their appetites. The great advantage of such an arrangement is simply the *security by superabundance or excess a sufficiency of food* of a suitable kind for the mass of the community, some individuals of which consume and require more, others less, than the stated average allowance.

In regard to the *quality* of the foods composing the dietaries of this Institution, we have to observe that all the articles are of the best kind to be found in the market. They are the same in class and kind as we use in our own household; indeed, in regard to mere market quality they are frequently superior, because we are at liberty to purchase for, and consume, ourselves, articles of diet popularly denominated and deemed “coarse,” and correspondingly cheap or inexpensive, which circumstances, already partly explained, unfortunately prevent our supplying to, or causing to be consumed by, our patients. The articles of diet supplied to the latter are the same in quality and kind as those used by the majority of the middle and upper ranks of society. We have already said so much on the subject, that it is unnecessary here again to insist on the fact that superiority in mere market value is not synonymous with superiority in nutritive value or digestive suitability,—a fact of which the article or item bread perhaps offers one of the most familiar and forcible illustrations. “A good pure brownish bread,” says Dr Brinton, “of simple wheat meal, with even an admixture of a fourth or fifth of rye, would, for equal money value, give the labouring population a food incomparably more abundant and nutritious than that which they now make use of as pure white bread. And in no way could the dyspeptic affluent supply their poorer neighbours a better dietetic example than by adopting were it at some little pains, a bread which might sometimes cure their own ailments by its mechanical quality, as well as prevent disease among the lower classes by its nutritive value.”\* We owe it to the so-called refinements of civilization, that in our staple food, what in a sense we very truly call the “staff of life,”—bread,—we discard the bran of wheat, which is richer in phosphates and other salts than the finer portions of the flour, and which possesses, moreover, mechanical qualities of great importance to healthy nutrition in these days of passive or sedentary lives and occupations.

\* Cornhill Magazine, ol. citat. page 292.



The extent to which public dietaries should consist of, or contain, animal and vegetable foods, has ever been, and continues to be, the subject of keen discussion. No general conclusion has been arrived at—no general law can perhaps be laid down and acted upon—save this, that, while certain individuals can subsist well or subsist best, under given circumstances, on a purely vegetarian diet, and certain others on a diet nearly altogether of animal origin, there can be no doubt that the bulk of mankind subsist most healthily, as well as economically, on a *mixed* diet :—and that diet exclusively vegetable or animal may, as a general rule, be regarded as unnatural and inadmissible. The only true principle on which to regulate a dietary is to select the necessary amount and proportion of nitrogenous, carboniferous, and mineral solid nutriment from *both* the animal and vegetable kingdoms. There may be minor chemical or physical differences between the nutrient principles of plants and animals, but they are virtually the same. Caseine, for instance, of the same character as that obtained from milk, can be procured from pease and beans ; from which vegetables indeed the ingenious Chinese actually make *cheese*, coagulating the caseine of the seeds by means of rennet. Fibrine of the blood and of flesh occurs under the name of gluten in the juices of esculent vegetables, and in the cereal flours ; and albumen exists equally in vegetable saps, and in blood and meat-juice. Hence it happens that, under certain circumstances, animal and vegetable foods are mutually substitutional, and in certain others mutually complementary. As a general rule, animal are more easily digested and assimilated than vegetable, foods. This circumstance should lead to a preference of the former class of foods under special circumstances. But science and experience alike point to a judicious combination of both the great classes of foods as yielding the most appropriate diet under ordinary conditions of existence. The best types of simple diets are milk alone, bread alone, or a combination of meat, bread, and butter. These contain the due proportion of nitrogenous, carboniferous, and mineral nutriment intended by nature ; and the more closely our composite diets are assimilated to these simple types, the more nutritive, the more easily digestible, the more suitable are they likely, under ordinary circumstances, to be. Meat may be held as representing nitrogenous nutriment ; butter, carboniferous ; and bread, a combination of both. In so far as the latter contains such a combination in natural and suitable proportions, it alone is, as food, superior in value to meat alone, or butter alone, neither of which would, of itself, suffice to support life. Bread alone, especially that made from the *whole meal* of wheat, oats, or rye, is at once one of the most economical and most nutritive foods, containing a due propor-

Proportion of  
Animal to  
Vegetable Foods.

Superiority of a  
Mixed Diet.

Animal and  
Vegetable Foods  
as mutually  
substitutional.

Types of Diets.

Bread : as the  
"Staff of Life."

tion of nitrogenous, carboniferous, and mineral nutriment; and as such it is quite capable of supporting life; though neither this nor any other single and unvaried article of diet can long do so in the adult in the best possible way. The extent, however, to which life may occasionally be so sustained, may be gathered from a letter by "One who has followed the Plough," which recently appeared in the *Times*,\* in connexion with the consideration of the amount, quality, and cost of food necessary to the bare support of the famishing Lancashire operatives. The writer states that, when a boy, he lived on 2s. a-week, almost his whole food being *bread*,—meat and beer being totally unknown; his only allowance of animal food, a small weekly *taste* of bacon! In so far as the gluten of flour or bread may be considered identical in chemical composition and physiological action with the fibrine of flesh; and fat corresponds similarly to a certain amount of starch, (as 100 : 240) fat meat agrees in composition and action with bread, and may, *pro tanto*, be regarded as substitutional therefor. To be equal in nutritive power or quality to bread, flesh must, however, either be comparatively fat, and at the same time comparatively indigestible or repulsive to many stomachs; or, as is more common in actual diets, it must be associated with some other form of fat, or its equivalent of starch in the shape, for instance, of rice or potatoes—foods which, poor in nitrogenous, are comparatively rich in carboniferous nutriment, and which, as such, constitute admirable adjuncts to a diet chiefly formed of animal foods.

Meat as substitutional for Bread.

Digestibility of Foods :

Given the necessity or desirability to supply a daily average of from  $3\frac{1}{2}$  to 5 oz. nitrogenous nutriment to a man, it might be supposed that the readiest and most satisfactory way to do so would be to select a sufficiency in rough weight of the foods richest in this class of nutriment; and the disposition to act upon this idea would perhaps be strengthened by finding that the same kinds of food are among the most economical. Adopting such a principle we should, guided by our Standard Table of nutriment in foods, at once select cheese, pease, and oatmeal,—all of which are unexceptionable articles of diet *in their due place*. A greater amount of solid nutriment is undoubtedly yielded by certain vegetable foods such as pease, or the cereal flours, than by the same weight of most animal foods. Universal experience, however, indicates that no average stomach could digest for any length of time the amount of cheese or pease alone,—in any form of food,—requisite to yield  $3\frac{1}{2}$  to 5 oz. nitrogenous nutriment per day, though these substances stand highest in our list or table as regards their nutritive power *per se*. In other words, they are comparatively indigestible—digestible only in moderate quantity; and can be judiciously used

in relation to quantity.

\* Jan. 27, 1863.



only in small quantity in combination with, or in addition to, other more digestible, though less nutritive, foods. Hence it happens that foods possessed of greatly inferior nutritive power,—speaking of nutritive power as synonymous with the possession of, or capacity to supply, the greatest amount of solid nutriment, especially of the nitrogenous class,—but endowed with a superior digestibility, are more suitable to the requirements of ordinary stomachs, better fitted to constitute the bulk of ordinary dietaries.

It would be a repetition to devote separate remarks to any detailed consideration of the necessity for combining and intermixing foods—or of the nature and amount of such combinations and intermixtures. This necessity is determined by, or depends upon, facts already specifically stated or explained, viz. :—that in foods there must be a due proportion between their nitrogenous and carboniferous constituents : that digestibility is of equal importance with mere percentage of nutriment : that no single article of diet, however rich in nutriment, can in the adult adequately, for any length of time, support life under ordinary circumstances. Instinct, long ago, led men to such practical combinations or intermixtures in the form of the habits of associating, in their chief or most substantial meals, such articles or items as beans and bacon, pork and pease-pudding, veal and ham, potatoes and rice with lean meat.

Nor is it desirable to recapitulate what we have said under previous heads on the Chemical composition of Foods,—further than to remark that this is a subject worthy of greater attention than is usually devoted to it in the construction of public dietaries and the selection of foods; inasmuch as what appears to be the same food or article of diet, may, from differing in its chemical elements, possess an inferior nutritive, as well as pecuniary, value. Professor Haughton, in his admirable researches on the chemical constitution of foods, and their nutritive power in relation to the capacity of the system for physical labour, remarks that the poor fatty mutton, from 2 to 2½ years old, with pale muscle,—the result of so-called *improved* breeding,—which abounds in the markets of large towns, is very inferior in nutritive value (the inferiority depending on an excess of water and deficiency of nitrogen) to the dark-fibred, lean, apparently ill-favoured, old mutton, 3 to 3½ years old, such as Highland mutton, which in a breeder's or butcher's eyes would probably not for a moment be compared with the other. We can corroborate his statement by our own experience of the comparative digestibility and nutritive value of the very lean, dark-fibred flesh of the sheep of Iceland and the Färoe Islands in contrast with the mutton common in the markets of Edinburgh or London.

Variety in Foods.

Co-existence  
with Economy.

Causes of Varia-  
tion.

Season: in rela-  
tion to Diet.

Modifications of  
Food by Cookery.

Defects of  
Culinary Art.

The experience of athletes, boxers, wrestlers, and pedestrians—of the “trainers” of race horses and fighting cocks—shows that the most vigorous health cannot long be maintained on a uniform diet, however nutritious and substantial this may in itself be : and how necessary therefore in the selection of foods is *variety*. Such is the importance of variety, as an element in diet, that foods inferior in nutritive value are frequently superior in usefulness or suitableness, simply because a greater and more judicious variety is supplied. Fortunately, it frequently happens also that greater variety is not necessarily synonymous with greater expensiveness ; on the contrary, the more varied diet may be the more economical, as well as the more palatable and digestible. Hence it is desirable, within due limits, to vary the diet in a public institution from day to day, so that no special food or article of diet may be suffered to pall upon the appetite on account of its uniformity. This can be readily done without any increased expenditure by the substitution, for instance of fish, poultry, rabbits, ham, bacon, or game, for ordinary butcher meat : of rye, oats, or barley, lentils, or revalenta, for the more common cereal and leguminous flours : of rolls, biscuits, scones, or cakes, for the more usual forms of bread : of puddings, stews and hashes for soups and broths. By this means we secure that foods are palatable, or relished ; and it is by no means unimportant that such a relish should both be created and attended to. In the light of the remarks that have already been made on the chemistry and physiology of Food, it is obvious that diet should vary with the varying circumstances of its consumer, in regard, for instance, to the kind and amount of his physical labour and exercise. It is no less evident that it should vary materially with external temperature—with the seasons ; a more substantial diet being called for in winter than in summer—one abounding more in meat and fat—more strictly animal in its origin in the one case—more properly or purely vegetarian in the other.

Marvellous are the modifications produced on the same foods by the resources of modern culinary art. Not only may the same amount of raw material be rendered more savoury and palatable,—in itself a matter of some moment ; more easily digested and assimilated,—a matter of still greater moment ; but it may be made to yield a much greater amount of nutriment by proper cooking, which, as a question both of economy and physiology, is of the highest importance. Equally marvellous, however, it is, that cookery, in relation to dietetics in our public Institutions, is most defective ; the result whereof is not only great loss of material, but great physiological errors. How zealously, for instance, do cooks throw away, as useless, the water in



which vegetables have been boiled,—a solution, to wit, of mineral nutriment essential to healthy nutrition, especially to the upbuilding of the more solid framework of the body—salts, which must, if lost in this the most natural form in which they could be presented, be supplied in some other, probably more expensive, shape. Dr Noad found that water, in which 1 lb. of potatoes had been boiled, contained 17 grains of carbonate of potash ; and that, in which an equal quantity of cabbage had been boiled, 21 grains of sulphate of potash ; and we would only refer to our previous remarks under the head of the mineral constituents of Food, (page 34) to indicate the importance of the *potash* salts alone in the economy. The same salts occur, in varying proportions, in turnips, carrots, and other vegetables ; hence the water in which these have been boiled should, in the hands of a careful cook, be retained as the basis of soups or some other form of food. A parallel waste of mineral nutriment occurs in the loss occasioned by the salting or pickling of meat. This causes the expulsion of a great part of the meat-juice and blood, with their salts ; so that in order to avoid the total loss of these salts, and of the other forms of nutriment which such juices contain, the latter should be carefully preserved and used as sauce, soup, or in some equally convenient shape. Otherwise an equivalent must be supplied, and this may most readily be found in concentrated meat-extracts, essences, or juices ; or, *quoad* simply the salts, in green vegetables, which contain 10 to 20 per cent. of their weight of saline or mineral matter. Much loss is suffered by ignorance in the apparently simple process of cooking Meat. Of all processes for preparing it for table, so as to retain in it the greatest amount of nutriment in the most savoury and most easily digestible shape, none is comparable with roasting. By this process the albumen of the juice of the surface of the meat is at once coagulated, and a crust is thus formed, which retains the more central nutrient juices. On the other hand, the worst of all such processes, *quoad* the meat, is the “boiling to rags,” customary in the manufacture of beef-tea. With a view to the production of the most nutritive beef-tea or *soup*, the proper solvent of the juices and salts of meat is *cold* water gradually heated to boiling ; but if the *meat* be intended for use in the boiled form, it should be at once thrown into *boiling* water, whereby, as in the analogous case of roasting, heat is applied to the surface, and the surface albuminous juices coagulated at once. The quality of the water even, which forms the basis of so large a portion of our food, is little considered ; whereas the softer and purer the solvent menstruum, the greater will be the amount of soluble material dissolved—of nutriment yielded in proportion to the

Popular prejudices and errors in Cookery.

Waste of Mineral Nutriment.

Cooking of meat :

its rationale.

Quality of water used in Cookery.

quantity of food supplied. But the quality of water is of much greater importance than this aspect of its uses indicates ; for, independently of their inferior solvent powers, waters containing certain proportions and kinds of salts or organic matter, exert, in virtue thereof, a most deleterious action on the economy, giving rise to several series of dangerous or fatal diseases. Modern cookery is, however, not only blameable in the directions pointed out, but in certain other forms or directions, the results whereof are equally serious, both in view of loss of material, and danger to health or physical vigour. It has unfortunately the power or means, by its most varied resources and ingenious devices, of bestowing upon certain classes of foods the appearance of the possession of qualities in which they are really deficient. We allude, for instance, to the whole starch family, in association, perhaps, with the gelatigenous series ; to arrow-root, sago, tapioca,—to calves' feet, and other jellies or glutinous soups,—wherefrom the modern cook can fashion an infinitude of most elegant and attractive dishes. When these are regarded strictly as elegancies and adjuncts,—as non-nutritive in the scientific sense,—there can be no objection to their use within reasonable limits. But it is a great error to suppose such foods possessed of “strengthening” qualities,—if thereby we mean that they are capable of yielding solid nutriment—and to make use of them, to any extent, in lieu of bread and meat—the staples of substantial diet. On this subject, Dr Edward Smith, an eminent authority already quoted, remarks :—“The practise of administering “arrow-root, or other fashionable foods, consisting of starch with water, “under the impression that it was more nutritious and easier of assimilation than wheat flour, was indefensible ; since it did not sustain “the vital action to a degree capable of maintaining life, and since “nature has not provided starch as food, altogether apart from nitrogenous substances.”\*

Intimately connected with the mode of cooking food is the mode of serving it ; and the latter includes a consideration of the character of table-furnishings, a subject to which, so far as this Institution is concerned, we have before alluded (pages 19–20). The *Æsthetics* of the Table are by no means contemptible in their relation to the function of digestion. Though their influence is undoubtedly psychical and not physical, in the first instance, there can be little doubt, we think, that forms of beauty communicated to the vessels in which food is served, and to the instruments with which it is consumed, minister in an appreciable sense and degree to the pleasures of food-taking : and whatever contributes to these pleasures—to the zest for meals—to the facilities of digestion—is worthy of regard. Fortunately, modern art

\* “Practical Deductions from an Experimental Inquiry into the Influence of Food.”—Royal Med. and Chirurg. Society of London : May 10, 1859.



is so prolific in materials and devices—it supplies elegancies, which do not suffer in their usefulness, at such a cost—as to render it no great sacrifice, or involve no large expenditure, to supply the most beautiful creations, for instance, of ceramic art instead of the clumsy bedaubed pottery of a bygone age; the most elegant furnishings in various composite metals, such as nickel silver, german silver, Britannia metal, aluminium, and aluminium bronze, instead of the heavy, equally expensive pewter goods: the most chaste designs in glass and crystal for the plainest articles in horn, tin, or crockery: the best productions of Sheffield and Birmingham for antiquated horn spoons, bone knives and forks, or for still more unsophisticated instruments—the human fingers.

Applications of  
Modern Art to  
Table Furnish-  
ings.

The universal experience of mankind, in all ages and countries—in all circumstances of life, savage and civilised—indicates the desirability of aiding the digestion of the more substantial and nutritive articles of food by certain accessories (stimulant or calmative alkaloids, such as those of tea, coffee, or cocoa—malt liquors, wines, and spirits—and condiments,) to which we cannot at present devote adequate consideration. If the physiology of foods proper is still in an unsatisfactory state in a scientific point of view, still more so is the physiology of stimulants and condiments, or other classes of dietetic medicines. “The importance of special portions of our food,” says a Reviewer from whom we have had already occasion to quote, “cannot be estimated merely by the value of their *direct* contribution to the system.” . . . . . “The addition of  $\frac{1}{2}$  pint of milk a-day to the diet “at Wakefield gaol, in 1853, diminished the sick list from 22 to 14 per cent.—an effect much beyond that which could be attributed “to the amount of nourishment contained in the milk.” \*

Accessory Foods.

Dietetic  
Medicines:

their place and  
power.

A diet may be in all respects in itself unexceptionable: its quantity, quality, variety, digestibility—its mode of cooking and serving may be all that could be desired, and yet it may be unsuited to the nutrition of the individual recipient, from circumstances in, or connected with him, which have escaped our consideration. There are qualities or conditions of the consumer that are quite as important as those of the diet provided; and to these it is now necessary to give some measure of attention before drawing certain general conclusions, and thereby quitting the subject of Asylum Dietetics. In relation to the digestion of the same foods, it is notorious that there are great differences between men of the same age and class, living apparently under precisely similar conditions. Some can be maintained in health and vigour only on continual abundance of substantial foods; while others, under similar circumstances, are sufficiently fed on light meagre diet—in whom such

Peculiarities of  
the Individual in  
relation to Diet.

diet alone is popularly said to "agree with their constitution." Not only, however, do different persons differ remarkably; but the same person differs as much from himself, under different circumstances, from time to time, as he does from others. So great are such differences—so familiar and conspicuous in relation to diet that they have become, ages ago, embodied in the proverb—"What is "one man's meat is another man's poison." Hence, in relation to diet, it becomes as necessary to study the peculiarities of the consumer as of the diet: there must be a mutual adaptation. Individualization of Dietetic, is therefore quite as necessary as of Medicinal, treatment: there must be special provision, after special study, for the wants of each individual case. This is the only safe and scientific way of regulating either diet or medicine,—for to be efficient all such regulations must be personal or individual. It follows from what we have just said that no Regulation Dietaries can be equally suitable in the case of every individual in any class or body of men. Indeed, in this view, public diet tables are scientific absurdities; and the chief benefit they confer, as we have already pointed out, is the securing of *sufficiency*, if not *efficiency*, by providing a superabundance of food,—a quantity and kind, to wit, theoretically suitable for the adequate nutrition of healthy adults. If the individualization principle of treatment must be acted on in regulating the dietaries of the sane, it becomes infinitely more important and necessary among the insane, in whom there are so many additional circumstances or causes interfering with the normal physiological action of ordinary foods,—in whom the incessant disturbances of nervous influence, modifying the function of digestion, alone call for equally numerous modifications of diet.

Principle of Individualization in Dietetic Treatment.

Physical health as a modifier of Digestive capacity.

Perhaps the most prominent cause of modification of diet in relation to the requirements or capacity of the consumer, in such a community as ours, is to be found in the peculiarities of the physical and mental condition of, the nature and proportion of physical and mental disease in, our population. Of persons *apparently* in good physical condition, whose appetite appears unimpaired by confinement, and who seem to eat, in proportion to their work and exercise, as much as they would probably do if sane and free, there are about 60 per cent. of the males, and 50 of the females,—or 55 per cent. of both sexes. Many of these persons, however, are well advanced in years, and their appetites and requirements demand a proportionably diminished allowance of food—our scales of diet being all adapted for able-bodied *adults* in the vigour of life. On the other hand, about 40 per cent. of the males and 50 per cent. of the females, or 45 per cent. of both sexes, bear the marks of depraved health. They are naturally of delicate

Prevalence of infirmity or disease in our Community.



constitution and slim build, with a languid circulation and little activity of vitality ; or a naturally good constitution has been undermined by dyspepsia, by age or by the other causes of impairment immediately to be considered. About 15 per cent. of the male patients, and 25 of the female, or 20 per cent. of both sexes, are positively infirm. This category includes the bed-ridden, the paralytic, the inmates of the infirmary wards or sick rooms, the feeble and helpless from age. The tables appended to this and previous reports, in connection with the admissions, illustrative of the co-existent physical diseases or injuries—the vitiated conditions of general health—of patients received, point out the following as among the commonest physical complications of insanity :—

1. Anæmia, chlorosis, or other cachexiæ.
2. Emaciation and debility, sometimes extreme, produced by, or resulting from
  - a.* Prolonged abstinence from food.
  - b.* Masturbation, or debauchery.
  - c.* Intemperance.
  - d.* Parturition and lactation.
  - e.* Previous fevers or other exhausting diseases.
3. Pulmonary affections, more especially bronchitis and phthisis.
4. Gastric disorders, especially dyspepsia and gastritis, sub-acute or chronic, with frequently chronic vomiting and inanition.
5. Cutaneous affections, generally of a chronic and inveterate character, such as psoriasis, eczema, and acné.
6. Intestinal disorders, especially constipation and diarrhœa.
7. Paralysis—simple and usually local—such as paraplegia : or, the special form denominated General Paralysis or Paresis.
8. Heart affections—functional and organic.
9. Rheumatism, especially of a chronic kind, including rheumatic gout.
10. Ulcers, abscesses, boils, and carbuncles.
11. Wounds or injuries—suicidal or accidental—interfering with exercise and occupation, or threatening life.
12. Catamenial irregularities or uterine and vaginal affections, such as amenorrhœa, leucorrhœa, dysmenorrhœa, and menorrhagia.
13. Ophthalmia Tarsi and other indications of the strumous diathesis: while more rarely there are such affections or conditions as
14. Pregnancy, hernia, bronchocele, hæmorrhoids, &c.

Infirmity or Disease co-existent with Insanity on Admission.

We may take a different view of the same subject, the vitiated vitality of a large proportion of our population, through the medium of

illustrations of the classes of minor ailments to which our residents are subject. The table given in our 34th Report (1861, page 101 et seq.) refers to a year, which was exceptional *quoad* external temperature, the excessive moisture of the atmosphere and other meteorological conditions, as well as the overcrowding of the inmates and other unfavourable sanitary arrangements. Though the number of affections therein tabulated is certainly correspondingly exceptional, their kind or type does not differ materially from that which characterises the general health of our community during every year and every season, though more particularly the winter season. In the order of their general frequency, the minor ailments to which our community is liable may be thus classified:—

Prevalent  
Morbid condi-  
tions of Health.

1. Boils and allied affections, including whitlows, abscesses, carbuncles.
2. Diarrhœa, usually simple.
3. Catarrhs and allied pulmonary affections, especially bronchitis.
4. Ulcers, including onychia, &c.
5. Cutaneous eruptions: psoriasis, eczema, impetigo, rupia.
6. Miscellaneous affections—including erythema and erysipelas, congestive apoplexy, purpura, strumous corneitis and conjunctivitis, cynanche tonsillaris and parotidea, rheumatism, &c.

Additional data for the formation of an estimate of the state of our community in regard to physical health may be gleaned from our remarks in a previous part of this report (pp. 9–10) on the mortality of the year, and on the cases requiring the use of special surgical appliances or the assistance of surgical experts. Certain of the affections prevalent among our residents are direct derangements of the function of nutrition—specific disorders, organic or functional, of the stomach and intestines. But the tendency or result of all classes of ailments—major and minor—referred to is to deteriorate and depress the physiological activity of the general nervous system; and, whatever does this implicates or reacts on the important and delicate function of digestion and assimilation, as well as on every other function of the economy. The biological conditions produced by disease differ materially from those, which are the result or expression of health: neither food nor medicine, it is notorious, act in the same way on the sick as on the healthy. Hence these biological conditions, in relation to diet, must become, with the judicious physician, the subject of special study *in every individual case*. With so large a proportion of infirm or debilitated, diseased, or dying patients, our *actual* Dietaries must deviate largely from the Scales or Tables already given, and which

Derangements of  
Digestive  
System.

Depressed ner-  
vous energy.



are altogether adapted to the healthy and strong. Hence a considerable number of our dietaries are equivalent to the "Low," "Rice," and other diets of the Edinburgh Royal Infirmary, whereof panado, or the farinacea and milk constitute the type, bulk, or basis. While, in respect of solid nutriment, there is in such cases a large subtraction from the quantities specified in our Printed Dietary Tables, there is a considerable and frequently an expensive addition in the form of Dietetic medicines, such as wines and spirits, porter, tea, coffee, &c.

Not less important perhaps than the physical, is the mental, condition of such a community as ours in relation to its food. Digestive difficulties probably as frequently arise from the state of the brain as from that of the stomach or the food. Among the healthy sane, it is too familiar to require exposition or demonstration here how easily and materially digestion is affected or perverted by simple emotional disturbances: by mental exhaustion,—business cares,—family disquietudes,—by the general mental condition implied by such expressive terms as "worry," "anxiety," "weariness of spirit." How suddenly and frequently do we all see capricious appetite, or depraved appetite, or want of appetite result from the simplest emotional causes: phenomena indeed which are among the most common and striking examples of the "Influence of the mind over the body." There is perhaps no single greater enemy to healthy digestion than *Mental Anxiety*, not only on account of the impairment of the function of innervation directly, and of nutrition indirectly, thereby produced, but from its importance as a direct destroyer or waster of tissue. Professor Haughton found mental anxiety more exhaustive of tissue as well as of physical energy, than either physical or mental work. So destructive indeed is its influence that he speaks of it as "that most fatal of all diseases to which man is liable—anxiety of mind—a vague and unscientific expression, which, however, denotes a most real disease."\* If then it be the case that, among the sane, digestive derangement, and with it an incapacity to assimilate certain kinds or amount of food result from mental causes or nervous influences of a slight and transient kind; how likely is it that such derangement to a greater extent—that digestion and assimilation still more depraved in character should be the rule and not the exception among the insane, where it may be presumed there is a disturbance of the dynamical equilibrium of the brain and general nervous system, the physiological actions or functions whereof are depressed or excited, perverted or interfered with in so many forms and degrees. Some forms and phases of insanity are intimately associated with, and may even in some cases be said to be characterised by, peculiarities of

Sick Dietaries.

Mental changes  
in relation to  
Digestion.

Mental Anxiety.

Insanity in  
relation to  
Nutrition.Peculiarities of  
the Insane as to  
Food.

\* "Natural Constants of the healthy Urine of Man," *ol. citat.*, page 34.

appetite, digestion, and assimilation. There are few peculiarities of the insane more familiar, and at the same time, more troublesome, the sources of greater anxiety to the physician, than the anorexia, or obstinate refusal of food frequently associated with melancholia and certain kinds of monomania; while over against those, we may set as a *per contra* the apparently faultless appetite and easy digestion of happy dementia. In every asylum are to be found patients who habitually regurgitate or ruminate their food, or who deliberately vomit it: who consume, whenever an opportunity is afforded, grass or every species of offal,—or still worse, fæces and matters equally disgusting: who “bolt” their meals, not masticating sufficiently, or not masticating at all: who can supply no natural materials for insalivation by reason of the noxious habit of incessant spitting: who have endless appetital caprices connected with delusions, frequently as to the supposed poisoning of food or adulterations thereof: who, for long periods, from persistent refusal of nourishment, require a resort to artificial alimentation, which admits of the introduction into the system only of certain classes and amounts of food—the digestion and assimilation of which cannot usually be secured by the necessary exercise or other customary and efficient aids or complements to digestion. In all such cases it must be evident that the diet proper for a healthy sane adult must be unsuitable or improper; either insofar as it is not the most readily digestible under the circumstances, or it cannot be administered or supplied in its ordinary form, or it is supplied in excess of the capacity or requirements of the system, whence waste or disease results. In this view, again, the food-supply of our Printed Diet Scales must appear superabundant for the average wants of the community. Nor must we forget, in considering the effect of mental disease on appetite and digestion, the influence of that department of the treatment of insanity which consists in confinement. In the parallel case of prisoners, Dr Edward Smith found that the power of assimilation is lessened by confinement; and this, if equally correct in regard to the inmates of asylums, would imply the expediency of specially adapting the dietaries of the latter to their diminished assimilative capacity.

Confinement in  
relation to Diet.

Exercise in  
relation to Diet.

But not only does the physical and mental condition of the insane directly modify the function of nutrition and call for corresponding modifications in their diet; it does so also indirectly, by limiting or determining the nature and amount of their exercise and occupations. No system of dietetics—no kind of dietary—no scale of food—is complete or satisfactory, which does not include, or with which is not associated, with a view to healthy digestion, a sufficiency of exercise in the open-air. Muscular exercise is indeed indispensable to vital



vigour: there is nothing that can be substituted for it. Without it there is not the same healthy removal, and reconstruction or replacement, of tissue. So essential is it to digestion and thereby to nutrition and to health, that we regard it as an essential complement to, if not an integral part of, diet; and as such, we prescribe and enforce it quite as systematically as we do medicine. In such an Institution as <sup>Exercise an integral part of Regimen.</sup> this, exercise constitutes a most important feature of treatment—our efforts being generally quite as much directed to the restoration of a normal digestion as to the treatment of mere mental phenomena, so frequently springing from, or inseparably connected with, a diseased innervation and nutrition. The active industrial occupations of a certain proportion of our community may be held as implying or <sup>Systematised exercise</sup> involving a sufficiency of muscular exercise: and doubtless, in most cases, they do so. But even in these cases we secure an additional amount and form of muscular exertion by walks, games—such as <sup>associated with Occupation or Recreation.</sup> foot-ball and cricket—and other forms of pure exercise, or of exercise associated with recreation. About 45 per cent. of the male patients, and 70 of the females, or about 57 per cent. of both sexes, who do not engage in occupations involving physical exertion, or who do not usefully occupy themselves at all, are yet made to take a sufficiency of open-air exercise, in the form mainly of walks in the grounds or beyond them—or of games and recreations—such exercise or recreations necessarily varying both in degree and nature with the condition—physical and mental—of the individual. A small per centage of patients obstinately and absolutely refuse open-air exercise of any kind, and its <sup>Difficulties in compulsory Exercise.</sup> compulsion might lead to consequences, to themselves and others, of a very serious kind. In a large proportion of cases there are great difficulties connected with the compulsion or enforcement of exercise, just as happens in the parallel cases of food and medicine. But these difficulties are in all, save a fraction of cases, ultimately satisfactorily overcome; and in the vast majority of the patients exercise is secured, sufficient in kind and amount for the requirements of the system *quoad* the digestion of Foods. In about 10 per cent. of both sexes, the form or <sup>Muscular hyperactivity as a feature of Insanity.</sup> character of the mental disease secures or implies not only a sufficiency, but a superabundance, of muscular action, an excess creative of exhaustion, sometimes of an extreme and fatal kind, requiring as sedulously to be checked, as in other cases, muscular action must be encouraged. Such cases are usually found in various forms of restless Mania.

Not less important, in its relation to digestion, than exercise is <sup>Occupation in relation to Diet.</sup> the nature and amount of occupation,—especially such as belongs to the category of physical labour in the open-air. Such labour involves

Muscular or  
Mechanical  
Labour.

the muscular action requisite for the due aëration of the blood; the proper oxidation of carboniferous foods; the healthy removal and replacement by nitrogenous nutriment of tissue-waste. It supplies, moreover, a healthy mental stimulus, which reacts most favourably on the general physical condition, and thereby on all the functions of the economy. Great physical exertion or labour is a large consumer of oxygen, a large destroyer of tissue, and it demands in consequence a liberal supply of carboniferous and nitrogenous foods:—to what extent

Mental Labour.

in comparison with the requirements of the inactive or idle may be seen on reference to Dr Letheby's Table in the Appendix. Mental work, however, produces the same expenditure of force and substance as severe bodily labour; and it therefore calls for a correspondingly large supply of food to replace the great waste involved. But there is wanting the same healthy and rapid reconstruction, after removal, of tissue, which muscular exercise or action alone can give rise to; and unless such exercise be added in some form to an adequate extent, digestion and nutrition will infallibly suffer. Indeed, in the majority of cases, from inattention to this circumstance,—to the necessities of the system for muscular action,—digestion and nutrition do suffer and suffer materially,—too frequently irremediably—in the mere brain-worker.

Comparative  
waste of tissue  
under Muscular  
and Mental  
Labour.

The amount of bodily or mental work is measurable by the daily waste of tissue in the economy; and this daily waste by the quantity of urea excreted *per vesicam*. Estimating by this means their relative influence as factors of tissue-waste, Professor Haughton found that, while ordinary mechanical or muscular labour produces per day an excretion of 136·5 grains of urea; mental work, in the form of 5 hours' study, gives rise to 217·0 grains; and in the form of 8 hours' ordinary office or routine work to 221·7 grains. There is thus a waste of tissue generated by mental work superior in degree or amount to that produced by the same duration or equivalent of mechanical or muscular work; and the inequality is infinitely greater when mental work becomes more intense, or when, above all, mental "worry" or anxiety is super-added. Hence it happens that, measured in this way, the clerk at his desk, or the student in his retirement, may, within an equal space of time, do quite as much work—expend as much force and waste as much substance as the Crimean navy or the Yorkshire labourer. But it is evident that the position of the one class of workers is very different from that of the others in relation to the amount and quality of their foods,—the normality of their digestion and nutrition. The muscular exercise in the one series of cases and its absence in the other; the muscular expenditure or loss in the one, the nervous waste in the other—make the difference a most

Different quali-  
ties of Foods re-  
quired by the  
Hand-worker  
and the Brain-  
worker.



material one. Given, let us suppose, the same tissue-waste by muscular and by mental work and an equal need of reconstruction or replacement by nutritious foods; the quality and amount of food in the case of the mechanical labourer must differ materially from what it will be in the case of the brain-worker. In the latter the food, even if of equal amount as to its proportion of solid nutriment, must be of different quality, as to digestibility: his digestive and assimilative powers are feeble—his whole vitality comparatively depressed and languid. Hence while the brawny son of toil,—the field labourer, who passes the bulk of his life actively employed in the open-air, and whose physical exhaustion is followed by sound and restorative repose,—can digest with ease, and maintain life and health in their highest vigour on such foods as pease and oat-meal, cheese, fat meat, and vegetables: the care-worn student, whose exercises are scarcely at all of a physical or muscular character, and are mainly confined within the four walls of his “sanctum” or library, whose nervous exhaustion is generative of a nervous irritability and excitement, preventive of sound sleep, can only digest—and that probably with difficulty—such simple foods as milk, eggs, lean meat, and the farinacea. All this has an intimate bearing on diet and digestion among the insane; for while comparatively few of them are in the position of the field labourer, as above sketched, too many are in the position of the care-oppressed student—their nervous system shattered or debilitated by mental anxieties or emotions, or by the thousand so-called moral and physical causes of insanity to be found tabulated or set forth in the reports of all our public lunatic asylums. Applying these remarks to our own community, it is obvious that our dietaries or diets—with a view to the healthy nutrition, to the physiological requirements, of the individual, should vary—both as to the nature and amount of the foods composing them—with the nature and amount of his occupation,—with the extent to which his work, his recreations, his exercise partake of a muscular or mental character—with the healthy or abnormal tone of his innervation. The healthy male adult, originally a field labourer,—who spends from 6 to 10 hours a-day in garden trenching; the sturdy Irish girl, originally a potato-gatherer, who spends nearly an equal amount of time over the laundry-tub; the excitable maniac, whose supe abundant muscular and nervous activity are directed upon the routine, but pretty severe, operation of pumping water; the healthy monomaniac, who, in the form of pacing or walking exercise in the airing-courts, verandahs or grounds, expends an amount of muscular activity equal to that implied in at least 20 miles per day of pedestrianism—must evidently be very differently treated, as

Different kinds  
of Foods required  
by different  
classes of  
Patients.

Proportion of  
Patients indus-  
trially employed.

Work as a feature  
of curative Treat-  
ment.

Sedentary  
occupations.

Recreational  
occupations.

to diet, from the feeble, anæmic, emaciated, phthisical melancholiac ; or the chlorotic subject of amenorrhœa and hysteria ; or the helpless bed-ridden paralytic, aged or dying ; or the abstinent, the regurgitators, the vomiters, the dyspeptic ; or the professional man, originally endowed with a peculiarly sensitive nervous organisation, whose mind and nervous system have been irremediably damaged by the extreme and prolonged mental tension of anxious office, who is unsuited on the one hand, and disinclined, on the other, for physical occupation or exercise, and whose recreations are all of a sedentary class ; or the proud monomaniac, who disdains manual labour as infinitely degrading, and lives a life of inglorious ease and sloth. In this aspect, again, individualization of treatment becomes essential ; the peculiarities of each individual must be studied,—his requirements prescribed for,—whether in regard to food or medicine, exercise or occupation. About 35 per cent. of the male Patients, and 20 of the female, or 27 per cent. of both sexes, are usually or habitually engaged in active industrial occupations. These comprise among the males the out-door labours of the garden and grounds,—of the farm-yard and parks,—as well as the more confined operations of pumping water, or gallery-cleaning, and the systematic industries of the workshop. Among the females they include laundry, kitchen, gallery, and workshop operations, all of which are mainly of an in-door character. But many of the Patients belonging to this category—industrially employed—are so to a very limited extent ; the extent or amount, as well as the nature, of their occupations being altogether determined by their physical ability. A considerable number are up in years and feeble in energy, and are only able for mild forms of simple or routine mechanical duties. Further, as we have already explained, it is no object of ours to exhibit the largest possible per centage of labouring Patients,—the highest development of industrial occupation, save insofar as this may be an accidental expression of the physical vigour of our community. Work is prescribed simply as an integral part or feature of treatment,—only where it is considered conducive towards restoration to mental and physical health. In about 10 per cent. of the males and 35 per cent. of the females, or 22 per cent. of both sexes, occupations are sedentary, implying little or no muscular or mechanical exercise or action ; but such occupations are most beneficial, insofar as they pleasantly and profitably engage the mind. This category includes pure amusements,—such as music ; as well as those which combine instruction and recreation, such as most kinds of reading. The games, in which a large proportion of the Patients, especially of the higher classes, join, are more useful, insofar as in dancing, foot-ball, cricket, archery, and



bowls, a considerable amount of pleasant muscular exercise is involved. Proportion of the Idle. About 30 per cent. of either sex are altogether and persistently idle and apathetic—so far as concerns any species of regular and useful occupation.

Due cognizance must also be taken of individual idiosyncrasies, Idiosyncrasies in relation to Diet. both those which are healthy or physiological, innate or congenital, permanent and persistent, and those which are morbid and acquired, transient and accidental. That natural and congenital idiosyncrasies materially affect diet and digestion may be illustrated by the very familiar fact of the production of Urticaria, or still more serious or disagreeable results, by the ingestion by particular persons of particular foods and fruits. In such a case pre-eminently "What is one man's meat is another man's poison;" for an article of diet, such as second-quality flour, which is most nutritious and most wholesome in itself, and which is palatable to, and easily digested by, the great bulk of his fellow countrymen, may act as a poison on the unfortunate individual who is the subject of this peculiar predisposition or idiosyncrasy.

There are differences in the quality and character of the nervous Quality of Nervous Organization. organisation, that determine those susceptibilities to certain classes of

healthy or diseased action, which characterise individuals, and which may be said indeed to distinguish every individual from every other individual. The nervous sensibility or irritability, using these terms in a physiological sense, differs as greatly in different classes of men as between different breeds of the lower animals; and a full consideration of these differences in the latter—where they have become the subject of direct experiment—might lead to a more thorough understanding of those in man. Professor Claude Bernard of Paris, one of the most eminent living experimental Physiologists, in his excellent Lectures on "Idiosyncrasies in Animals," \* remarks as the result of long

observation that, while the higher breeds of dogs are endowed with such extreme sensitiveness and such an amount of nervous irritability, Idiosyncrasies in the Lower Animals as illustrative of those in Man.

(using all these terms in a strictly physiological sense), or are characterised by what in a similar sense may be denominated "nervousness" to such extent, that the slightest operation induces fever and materially interferes with every function of the economy, beginning with digestion and nutrition:—the lower breeds are characterised by such a degree

of bodily endurance and hardihood, by so much greater obtuseness of function, by so much less exquisite a nervous sensibility, that the same Differences in Nervous organisation produced by artificial creation of Breed in Animals. operations elicit scarcely any pain; "the animal hardly attempts to

move and scarcely seems to suffer: the appetite remains unimpaired and the secretions normal; in short, the various functions of the economy *pursue their natural course.*" † Equally great

\* "Medical Times and Gazette," February 4, 1860, page 109.

† *Ibid* page 110.

Dog and Horse. are these differences, as the direct effect of breeding, in the horse. “An irritable, sensitive, and highly organised nervous system is, in fact, “the essential difference, which separates the Race-horse from one of “these diminutive half-wild ponies, which hilly countries so abund-  
 Analogy *quoad* results, between Creation of Breed and Civilisation. “antly produce.” Now the results of civilisation in man are analogous to those of breeding in animals ; and we may properly compare, on class—*quoad* the quality or character of their innervation—the higher ranks of society in this country, more especially the brain-workers, with the higher breeds of such animals as the dog and horse ; and the lower ranks, the muscle-workers, with the lower breeds. We are characterised at the present day—as the result of our civilisation, the artificialities and abnormalities of our lives—by a prevalent irritability of constitution, depending on the quality of our nervous organisation, which, as it affects diet, renders necessary—speaking generally and alluding especially to the brain-working classes—a smaller amount of solid nutriment and a proportionably large consumpt of pure stimulants or of fluids of the class of Dietetic medicines. Physicians abundantly recognise this peculiarity of constitution in the altered “type of disease,” in its more asthenic or typhoid character, in the little tolerance of, or requirement for, “heroic practice” such as depletion and the administration of powerful antiphlogistics and depressants ; and on the other hand, the necessity for stimulants, tonics, and nutrients.

Prevalent Nervous Irritability in relation to Diet.

Appetite or Relish as a Guide to selection of Food.

Dislike or Disrelish indicative of defective digestive capacity.

Under certain circumstances, appetite, craving, desire, relish, or liking for particular kinds of food may be regarded as the expression of a healthy want, and as such they should become valuable guides in the adaptation of diet to the individual. Dislikes for food in general, or for particular kinds thereof, frequently, as in the case of the sick, indicate defective digestive and assimilative power or capacity ; and in such circumstances the only procedure that is judicious, or perhaps that is admissible, is to substitute smaller quantities of food of the most easily digestible kinds, and to render them as palatable and savoury as possible. Dr Edward Smith makes the following apposite remarks, as the result of a long series of elaborate experiments on the Physiology of Foods—the most complete of their kind recently made or published. “In my inquiries I found that, with a disrelish for an “article of food, there was less influence from it than under ordinary “circumstances. . . . It is, therefore, questionable how “far it is proper to induce a person to take that which he disrelishes. “An important meaning is shown to exist in that, which is commonly “regarded as irrational or capricious.” . . . And the Cornhill reviewer, following the same line of argument, observes, “What is most



"relished is, at once, most needed by us, and best digested. . . .

"The sick man's longings are the physician's sign posts." . . . .

That therefore would appear to be "The best diet, which gives the  
"most genuine and permanent satisfaction."\*

There are, again, <sup>Morbid</sup> certain other appetites and longings, relishes and likings of a decidedly <sup>Appetites.</sup> morbid character and origin, which demand a very different treatment.

In every asylum there are many patients, whose appetite is inordinate or depraved, or both; they devour greedily, whenever opportunity occurs, the most indigestible and filthy substances—including grass, fæces, and other garbage—thereby destroying the healthy tone of the stomach, and vitiating the whole process of digestion and nutrition.

About 10 per cent. of the male Patients in this Institution, and 7 per cent. of the females, or 8 per cent. of both sexes exhibit appetites either simply inordinate, or depraved and capricious, or both; such morbid appetites being characteristic features or concomitants of the forms or phases of mental disease of which they are the subjects.

All the foregoing Dietetic considerations, statistics and calculations <sup>Principle of</sup> lead to the conclusion, to which every stage of this inquiry has equally <sup>individualisati</sup> brought us,—that Dietetic treatment, to be efficient, must be *individual*. <sup>in Dietetic</sup> <sup>Treatment.</sup>

Science and experience alike prove this, and show that no Regulation Dietary, table or scale, however complete and satisfactory in itself, however skilfully drawn up, can be equally adapted to *all* the individuals of any body, class, or community, who necessarily differ in respect of constitution and idiosyncrasy, health and disease, occupation

and exercise. Hence, while it is perhaps necessary or expedient that <sup>Difference be</sup> a Public Hospital—such as this—should possess some full <sup>tween Regula</sup> Standard <sup>tion Dietaries</sup> Dietary Scale for all classes of its inmates, it would be most unwise to <sup>and actual co</sup> regulate the consumpt of each individual by any such arbitrary stan- <sup>sumpt.</sup>

dard. Variation is necessary, infinite in proportion to the infinite variety in the peculiar circumstances of individual patients. To what extent, or in what form, such variations occur in the practical dieting

of the inmates of this Institution our printed Diet Tables do not at all, and indeed cannot, show Nor is it possible fully to exhibit them

save by such illustrations as the aggregate cost of extra diet for a <sup>Variations of</sup> particular class of Patients—for instance that of paupers. A large <sup>Diet with</sup> proportion of this class of inmates,—in virtue, or by reason, of their <sup>peculiarities o</sup> physical or mental condition,—their idiosyncrasies,—their age,—have <sup>Individual.</sup> a diet quite as good,—in every sense at least in which it can properly

be considered good,—as that of the highest classes of Patients. This can only be secured at comparative expense: inasmuch as the wines

and spirits, porter and ales, tea and coffee, eggs, arrow root, sago, tapioca, <sup>Dietetic</sup> Indian corn, and other so-called and considered luxuries, which are <sup>Luxuries for</sup> <sup>Paupers.</sup>

\* "Cornhill Magazine," ol. citat. pp. 283-4.

freely supplied, are greatly more costly than the oat-meal, which constitutes the basis or type of the diet of the ordinary pauper. The liberal views and instructions of the Directors have, however, invariably enabled us to bring Dietetic treatment, in common with every other class or kind of treatment, to bear *firstly* and mainly upon the physical and mental improvement of the individual Patient—and to regard the pecuniary relation of such measures or treatment as of secondary consequence. An improvement,—considered in certain aspects, this special adaptation and alteration of diet is not so in certain others. In point of mere costliness there is no question as to its superiority; nor can there be much doubt as to its superiority in point of suitability to the peculiarities of the individual. But, in respect of the mere quantity or quality of solid nutriment, such a change cannot be regarded as an improvement, few of the substances above mentioned coming within the category of Foods proper at all—and there being no comparison in point of nutritive power *per se* between stimulants and starches on the one hand, and meat, vegetables, and the farinaceous and leguminous flours on the other. We believe that, in public institutions of the hospital class, there is a greater danger or risk of mischief from *over* than from *under*-feeding—more especially perhaps from an excessive consumpt of nitrogenous nutriment—of animal food—in relation to the requirements of the system, as these are determined by occupation, exercise, and the other modifying causes already so fully considered.

As a Resumé, we may concisely set forth our conclusions—  
 Firstly, as to Public Dietaries in general; and, Secondly, as to those of this Institution in particular—in the following propositions or paragraphs:—

I. In regard to Public Dietaries in general:

1. The cardinal qualities of a Diet, which constitute its nutritiveness or fitness are its
  - a. Quantity, especially in relation to the total amount of solid nutriment: and the relative proportions of the nitrogenous, carboniferous, and mineral constituents thereof.
  - b. Quality, in reference to digestibility, including the modifications produced by cookery.
  - c. Variety, combinations and intermixtures: variations with season, &c.
  - d. Accessories, in the form of neurotic beverages, and condiments.

2. The qualities in the Consumer or recipient, modifying the



physiological requirements of his system, and affecting his digestive and assimilative capacity, are his

- a. Occupation, especially in relation to the amount of mechanical labour.
  - b. Exercise, especially as regards open-air muscular action.
  - c. Condition as to health, both of 1. Body, and  
2. Mind.
  - d. Idiosyncrasies—natural or morbid, congenital or acquired.
3. A uniform plan of Tabulation of Public Dietaries is desirable: and this can probably be best accomplished by exhibiting the gross amount of food consumed per person, along with the equivalent in nitrogenous and carboniferous nutriment, calculating the latter according to some fixed standard or scale.
  4. For the average adult population of this country, a Diet, which includes a daily allowance per person, of from  $3\frac{1}{2}$  to 5 oz. *nitrogenous*; and from 10 to 20 *carboniferous* nutriment, (the latter comprising a due proportion of *salts*), may be considered sufficient as to quantity.
  5. Scientifically regarded, no "Regulation" allowance of food, no quantitative rule or Scale, no uniform Dietary, however excellent in itself, can be considered equally suitable for a mixed body of persons differing in occupation, exercise, constitution, and idiosyncrasy.
  6. Science and experience alike point to the necessity for a practical recognition, in Dietetic, as well as in medicinal, treatment, of the principle of *Individualisation*.
  7. Generally speaking, the Diet of the well-fed of the lower orders is superior, in *nutritive value*, though not necessarily in *fitness*, to that of the higher classes: whose food differs chiefly in its greater variety,—the greater diversity of form given to it by cookery: its superior costliness; and in the *substitution of Dietetic medicines for Foods-proper*.
  8. Great improvement is possible and desirable in the present mode of *Cooking* or preparing Foods: whereby both a greater amount of nutriment may be obtained from a given quantity of material, and the same food rendered more savoury and digestible.

II. In regard to the Dietaries of this Institution in particular—

9. A fair average diet for the Insane, under Hospital treatment, embraces a daily allowance per person of 4 oz. *nitrogenous*, and 13 oz. *carboniferous* nutriment, (including *salts*) : while one yielding an allowance of 5 oz. of the one, and 20 oz. of the other is to be considered not only as most ample, but as in excess of the physiological requirements, or the digestive capacity, of the majority of patients.
10. The main advantage of Dietaries of such amplitude is the securing *sufficiency, by excess*, of Food.
11. In respect of the quantity of solid nutriment, the Dietaries of this Institution are not only in excess of the physiological requirements of the average of the patients, but they are superior to the majority of Public Dietaries, including those of the Army and Navy.
12. The best typical Dietary, *quoad* the proportion of solid nutriment, simplicity and economy, is that of the *Pauper*.
13. The Dietaries of the higher classes of patients are susceptible of improvement, by approximating them to those of the pauper, *quoad* the character and amount of solid—especially nitrogenous—nutriment : by the substitution of a greater variety of foods of the same class for those presently in use : and by improved modes of Cooking.



# APPENDIX

TO

## REPORT OF PHYSICIAN;

CONSISTING OF

## STATISTICAL AND OTHER TABLES.

## I.—GENERAL RESULTS OF THE YEAR 1862-63.

|                                                                     |                        |     | Males. | Females. | Total. |
|---------------------------------------------------------------------|------------------------|-----|--------|----------|--------|
| Patients admitted from 1827 to 1862,                                | ...                    | ... | 669    | 695      | 1364   |
| Of these                                                            | Recovered,             | ... | 240    | 341      | 581    |
| "                                                                   | were Removed improved, | ... | 89     | 79       | 168    |
| "                                                                   | " " unimproved,        | ... | 104    | 87       | 191    |
| "                                                                   | Died,                  | ... | 151    | 95       | 246    |
|                                                                     |                        |     | 584    | 602      | 1186   |
| Patients remaining on 9th June 1862,                                | ...                    | ... | 85     | 93       | 178    |
| " admitted during the year from June 1862 to June 1863,             | ...                    | ... | 24     | 23       | 47     |
| Total number of Patients under treatment during 1862-3,...          |                        |     | 109    | 116      | 225    |
| Of these                                                            | Recovered,             | ... | 7      | 8        | 15     |
| "                                                                   | were Removed improved, | ... | 6      | 3        | 9      |
| "                                                                   | " " unimproved,        | ... | 3      | 3        | 6      |
| "                                                                   | Died,                  | ... | 6      | 9        | 15     |
|                                                                     |                        |     | 22     | 23       | 45     |
| Patients remaining on 8th June 1863,                                | ...                    | ... | 87     | 93       | 180    |
| Mean daily number of Patients under treatment during 1862-3—177·900 |                        |     |        |          |        |

|                                                     |     |     |     |     |     | Males. | Females. | Total. |
|-----------------------------------------------------|-----|-----|-----|-----|-----|--------|----------|--------|
|                                                     |     |     |     |     |     | 24     | 23       | 47     |
| <i>1.—Age.</i>                                      |     |     |     |     |     |        |          |        |
| Between 10 and 15 years,                            | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| „ 15 „ 20 „                                         | ... | ... | ... | ... | ... | 2      | 2        | 4      |
| „ 20 „ 30 „                                         | ... | ... | ... | ... | ... | 5      | 4        | 9      |
| „ 30 „ 40 „                                         | ... | ... | ... | ... | ... | 6      | 4        | 10     |
| „ 40 „ 50 „                                         | ... | ... | ... | ... | ... | 5      | 6        | 11     |
| „ 50 „ 60 „                                         | ... | ... | ... | ... | ... | 2      | 5        | 7      |
| „ 60 „ 70 „                                         | ... | ... | ... | ... | ... | 2      | 2        | 4      |
| „ 70 „ 80 „                                         | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| <i>2.—Condition as to Marriage.</i>                 |     |     |     |     |     |        |          |        |
| Married, ..                                         | ... | ... | ... | ... | ... | 11     | 6        | 17     |
| Single, ..                                          | ... | ... | ... | ... | ... | 13     | 14       | 27     |
| Widowed, ..                                         | ... | ... | ... | ... | ... | 0      | 3        | 3      |
| <i>3.—Form of Insanity.</i>                         |     |     |     |     |     |        |          |        |
| Mania: acute, ..                                    | ... | ... | ... | ... | ... | 5      | 5        | 10     |
| Chronic, ..                                         | ... | ... | ... | ... | ... | 4      | 1        | 5      |
| Erotomania, ..                                      | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| Melancholia, ..                                     | ... | ... | ... | ... | ... | 4      | 9        | 13     |
| Monomania, ..                                       | ... | ... | ... | ... | ... | 11     | 7        | 18     |
| <i>4.—Co-existent Physical Diseases or Defects.</i> |     |     |     |     |     |        |          |        |
| Amputated arm, ..                                   | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| Amenorrhœa, ..                                      | ... | ... | ... | ... | ... | 0      | 3        | 3      |
| Cancerous Umbilical tumour, ..                      | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| Debility from abstinence, ..                        | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| „ other causes, ..                                  | ... | ... | ... | ... | ... | 2      | 5        | 7      |
| Depression of Cranium from old wound, ..            | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| Dislocation [partial] of Astragalus, ..             | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| Heart disease, ..                                   | ... | ... | ... | ... | ... | 0      | 2        | 2      |
| None, ..                                            | ... | ... | ... | ... | ... | 18     | 9        | 27     |
| Suicidal wound of scalp, ..                         | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| „ throat, ..                                        | ... | ... | ... | ... | ... | 0      | 2        | 2      |
| <i>5.—Duration of Insanity prior to Admission.</i>  |     |     |     |     |     |        |          |        |
| Under 1 week, ..                                    | ... | ... | ... | ... | ... | 1      | 1        | 2      |
| Between 1 week and 1 month, ..                      | ... | ... | ... | ... | ... | 8      | 8        | 16     |
| „ 1 and 6 months, ..                                | ... | ... | ... | ... | ... | 10     | 8        | 18     |
| „ 6 „ 12 „                                          | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| „ 1 „ 2 years, ..                                   | ... | ... | ... | ... | ... | 1      | 3        | 4      |
| „ 2 „ 5 „                                           | ... | ... | ... | ... | ... | 1      | 2        | 3      |
| „ 5 „ 10 „                                          | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| „ 10 „ 20 „                                         | ... | ... | ... | ... | ... | 2      | 0        | 2      |
| <i>6.—Number of previous attacks, †</i>             |     |     |     |     |     |        |          |        |
| One, ..                                             | ... | ... | ... | ... | ... | 2      | 4        | 6      |
| Two, ..                                             | ... | ... | ... | ... | ... | 1      | 1        | 2      |
| Five, ..                                            | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| Several, ..                                         | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| <i>7.—Interval since last attack.</i>               |     |     |     |     |     |        |          |        |
| 18 months, ..                                       | ... | ... | ... | ... | ... | 1      | 1        | 2      |
| 2 years, ..                                         | ... | ... | ... | ... | ... | 0      | 2        | 2      |
| 4 „ ..                                              | ... | ... | ... | ... | ... | 2      | 0        | 2      |
| 7 „ ..                                              | ... | ... | ... | ... | ... | 1      | 1        | 2      |
| 8 „ ..                                              | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| 13 „ ..                                             | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| <i>8.—Suicidal and Homicidal Propensities. ‡</i>    |     |     |     |     |     |        |          |        |
| Homicidal, ..                                       | ... | ... | ... | ... | ... | 2      | 1        | 3      |
| Suicidal, ..                                        | ... | ... | ... | ... | ... | 4      | 8        | 12     |
| Homicidal and Suicidal, ..                          | ... | ... | ... | ... | ... | 1      | 0        | 1      |

\* 76.59 per cent. of whole Admissions under 6 months.

† In 21.27 per cent. of whole Admissions.

‡ In 34.04 per cent. of whole Admissions.



|                                                         |     |     |     |     |     |     | Males. | Females. | Total. |
|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|--------|----------|--------|
|                                                         |     |     |     |     |     |     | 7      | 8        | 15     |
| 1.—Age.                                                 |     |     |     |     |     |     |        |          |        |
| 20 years or under,                                      | ... | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| Between 20 and 30 years,                                | ... | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| „ 30 „ 40 „                                             | ... | ... | ... | ... | ... | ... | 0      | 3        | 3      |
| „ 40 „ 50 „                                             | ... | ... | ... | ... | ... | ... | 2      | 1        | 3      |
| „ 50 „ 60 „                                             | ... | ... | ... | ... | ... | ... | 1      | 4        | 5      |
| „ 60 „ 70 „                                             | ... | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| „ 70 „ 80 „                                             | ... | ... | ... | ... | ... | ... | 1      | 0        | 1      |
| 2.—Condition as to Marriage.                            |     |     |     |     |     |     |        |          |        |
| Married,                                                | ... | ... | ... | ... | ... | ... | 4      | 2        | 6      |
| Single,                                                 | ... | ... | ... | ... | ... | ... | 3      | 4        | 7      |
| Widowed,                                                | ... | ... | ... | ... | ... | ... | 0      | 2        | 2      |
| 3.—Form of Insanity.                                    |     |     |     |     |     |     |        |          |        |
| Mania : acute,                                          | ... | ... | ... | ... | ... | ... | 2      | 3        | 5      |
| „ chronic,                                              | ... | ... | ... | ... | ... | ... | 0      | 2        | 2      |
| Melancholia, ...                                        | ... | ... | ... | ... | ... | ... | 2      | 2        | 4      |
| Monomania,                                              | ... | ... | ... | ... | ... | ... | 3      | 1        | 4      |
| 4.—Duration of Insanity prior to Admission.             |     |     |     |     |     |     |        |          |        |
| One week or under,                                      | ... | ... | ... | ... | ... | ... | 1      | 1        | 2      |
| Between 1 week and 1 month,                             | ... | ... | ... | ... | ... | ... | 3      | 2        | 5      |
| „ 1 and 3 months,                                       | ... | ... | ... | ... | ... | ... | 1      | 2        | 3      |
| „ 3 „ 12 „                                              | ... | ... | ... | ... | ... | ... | 2      | 3        | 5      |
| 5.—Duration of treatment in Asylum.                     |     |     |     |     |     |     |        |          |        |
| Three months or under,                                  | ... | ... | ... | ... | ... | ... | 1      | 1        | 2      |
| Between 3 and 6 months,                                 | ... | ... | ... | ... | ... | ... | 2      | 0        | 2      |
| „ 6 „ 12 „                                              | ... | ... | ... | ... | ... | ... | 2      | 2        | 4      |
| „ 1 „ 2 years,                                          | ... | ... | ... | ... | ... | ... | 2      | 3        | 5      |
| „ 2 „ 3 „                                               | ... | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| „ 12 „ 13 „                                             | ... | ... | ... | ... | ... | ... | 0      | 1        | 1      |
| The Recoveries constitute                               |     |     |     |     |     |     |        |          |        |
| 33·33 per cent. of the Discharges [including Deaths.]   |     |     |     |     |     |     |        |          |        |
| 50·00 „ „ „ [excluding „ ]                              |     |     |     |     |     |     |        |          |        |
| 31·91 „ „ Admissions.                                   |     |     |     |     |     |     |        |          |        |
| 8·43 „ „ Mean daily number of Patients under treatment. |     |     |     |     |     |     |        |          |        |
| 6·66 „ „ Total number under treatment during the year.  |     |     |     |     |     |     |        |          |        |

# IV.—OBITUARY FOR 1862-3.

| RESULTS OF POST MORTEM EXAMINATION.                                                                   |      |               |                                |                                  |                      |                                    |                                                                                                                                                                                                                                    |                                                                                                                                    |                                                                                                                                                                                             |                      |                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------|------|---------------|--------------------------------|----------------------------------|----------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prominent or exceptional Pathological lesions or conditions: Weight of Viscera in ounces Avoirdupois. |      |               |                                |                                  |                      |                                    |                                                                                                                                                                                                                                    |                                                                                                                                    |                                                                                                                                                                                             |                      |                                                                                                                                                          |
| No.                                                                                                   | Sex. | Age at Death. | Form of Insanity.              | Duration of Residence in Asylum. | Duration of Illness. | Apparent immediate Cause of Death. | Head and Spinal Column.                                                                                                                                                                                                            | Thorax.                                                                                                                            | Abdomen.                                                                                                                                                                                    | Other parts of Body. | Additional Remarks.                                                                                                                                      |
| 1.                                                                                                    | M.   | 64            | Dementia, chronic              | 34½ years                        | 2 days               | Apoplexy                           | Weight of Brain 46½ oz.: Clot over middle Lobe of Right Hemisphere: atheroma of Cerebral arteries: adherent Dura mater: Edema of right side of head and face: Double curvature of spine                                            | Weight of Right Lung, 27½ oz. Weight of Left Lung, 25½ oz. Pneumonic consolidation of both                                         | Weight of Liver, 44½ oz. Weight of Right Kidney 6 oz. Weight of Left Kidney, 5 oz.                                                                                                          | ..                   | Had scarcely a day's illness prior to fatal attack                                                                                                       |
| 2.                                                                                                    | M.   | 45            | Mania, acute                   | 9 days                           | 9 days               | Maniacal Exhaustion                | No                                                                                                                                                                                                                                 | Post Mortem                                                                                                                        | Examination                                                                                                                                                                                 | ..                   | Dangerously exhausted on admission                                                                                                                       |
| 3.                                                                                                    | F.   | 66            | Melancholia, Suicidal          | 9 months                         | ..                   | Suicide by Hanging                 | Weight of Brain, 47 oz.: Softening of anterior and right middle cerebral lobes: small true aneurism at origin of ophthalmic from internal carotid artery: atheroma of cerebral and meningeal vessels                               | Weight of Right Lung, 15 oz. Weight of Left Lung, 11½ oz. Hyperæmia of both: general adhesions to thoracic walls                   | Weight of Liver, 44 oz. Weight of Spleen, 4 oz. Weight of Right Kidney 3½ oz. Weight of Left Kidney, 4½ oz.                                                                                 | ..                   | Hemiplegia affecting left side on admission                                                                                                              |
| 4.                                                                                                    | F.   | 45            | Suspicious Monomania: Dementia | 1½ year                          | 1½ year              | Phthisis pulmonalis                | Weight of Brain, 42 oz.                                                                                                                                                                                                            | Weight of Heart, 6⅔ oz. Weight of Right Lung, 22⅔ oz. Weight of Left Lung, 17 oz. Tubercular infiltration of both: Vomices in left | Tubercular ulceration of Ileum and Jejunum                                                                                                                                                  | ..                   | Extreme emaciation and debility on admission                                                                                                             |
| 5.                                                                                                    | F.   | 60            | Dementia, chronic              | 31 years                         | 1 week               | Senile exhaustion                  | Adhesion of Meninges to Calvarium                                                                                                                                                                                                  | Hyperæmia of base of both Lungs                                                                                                    | ..                                                                                                                                                                                          | ..                   | Attempted strangulation of the Umbilical tumour by worsted threads. Resultant ulceration would have opened into Peritoneum and been fatal by Peritonitis |
| 6.                                                                                                    | F.   | 65            | Mania, acute                   | 8 months                         | 19 hours             | Apoplexy                           | Weight of Brain, 51½ oz.: numerous osseous scales in Falx and Dura mater: rent of left posterior cerebral lobe, leading to a softened portion containing a clot: cretaceous bodies in choroid plexus: atheroma of cerebral vessels | Pneumonic hepatization of base of Right Lung                                                                                       | Weight of Liver, 56 oz. Weight of Right Kidney 7½ oz. Weight of Left Kidney, 6½ oz. Hepatic abscesses: fatty kidneys: cancerous Umbilical tumour associated with cancerous omental tumours. | ..                   |                                                                                                                                                          |



# IV.—OBITUARY FOR 1862-3—[CONTINUED].

| RESULTS OF POST MORTEM EXAMINATION.                                                                   |      |               |                         |                                  |                            |                                    |                                                                                                                                                                                                                                                                   |                                                                                                                           |                                                                                                                                                                                                                                                      |                                                                                                            |                                                                                                                      |
|-------------------------------------------------------------------------------------------------------|------|---------------|-------------------------|----------------------------------|----------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Prominent or exceptional Pathological lesions or conditions: Weight of Viscera in ounces Avoirdupois. |      |               |                         |                                  |                            |                                    |                                                                                                                                                                                                                                                                   |                                                                                                                           |                                                                                                                                                                                                                                                      |                                                                                                            |                                                                                                                      |
| No.                                                                                                   | Sex. | Age at Death. | Form of Insanity.       | Duration of Residence in Asylum. | Duration of Fatal Illness. | Apparent immediate Cause of Death. | Head and Spinal Column.                                                                                                                                                                                                                                           | Thorax.                                                                                                                   | Abdomen.                                                                                                                                                                                                                                             | Other parts of Body.                                                                                       | Additional Remarks.                                                                                                  |
| 7.                                                                                                    | M.   | 39            | General Paralysis       | 4 years 1 month                  | 3 weeks                    | Convulsions and Coma               | Weight of Brain, 47½ oz.: ossaceous plate in Falx pressing on left hemisphere: false membrane entirely covering left, and partially covering right, cerebral hemispheres: increase of serum: suppuration of right internal ear: lymph exudation along spinal cord | Weight of Right Lung, 21½ oz. Weight of Left Lung, 14½ oz. Hyperæmia of right                                             | Renal Hyperæmia: lymphy, granular roughening of mucous membrane of Bladder—with hæmorrhagic patches                                                                                                                                                  | Hæmorrhagic infiltration of temporal and aural muscles of left side, and <i>Psoas magnus</i> of right side | Long subject to incomplete Hemiplegia, generally of right side: associated with persistent dilatation of right Pupil |
| 8.                                                                                                    | F.   | 72            | Mania, chronic Dementia | 8 months                         | 5 weeks                    | Broncho-pneumonia                  | Weight of Brain, 46¾ oz.: thickening of arachnoid over anterior cerebral lobes: softening of walls of 3d ventricle                                                                                                                                                | Weight of Right Lung, 32 oz. Weight of Left Lung, 8 oz. Broncho-pneumonia of right [base]: interlobular emphysema of left | Weight of Liver, 29¾ oz. Weight of Right Kidney 4 oz. Weight of Left Kidney, 4 oz. Congenital displacement of abdominal viscera—stomach and ascending colon reaching to third rib on left side. Hæmorrhagic infiltration of left Supra renal capsule | ..<br>..<br>..<br>..<br>..<br>..                                                                           | ..<br>..<br>..<br>..<br>..<br>..                                                                                     |
| 9.                                                                                                    | M.   | 54            | Melancholia, Suicidal   | 7 months                         | 5 days                     | Apoplexy                           | Weight of Brain, 52 oz.: Adhesions of Dura mater: subarachnoid effusion: cyst over superior veriform process of cerebellum: subluxation of odontoid process of axis: softening of cervical portion of spinal cord: spinal effusion                                | Weight of Right Lung, 19 oz. Weight of Left Lung, 28 oz. Pneumonic Hepatization of left                                   | Weight of Spleen, 7½ oz. Hepatic and gastric Hyperæmia                                                                                                                                                                                               | Cicatrices of suicidal wound over frontal bone                                                             | Stiffness of neck and tremor of hands prior to death                                                                 |

# IV.—OBITUARY FOR 1862-3—[CONTINUED].

6

| RESULTS OF POST MORTEM EXAMINATION.                                                                   |      |               |                                 |                                  |                            |                                    |                                                                                                                                                                                                                        |                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                |                                                                     |
|-------------------------------------------------------------------------------------------------------|------|---------------|---------------------------------|----------------------------------|----------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Prominent or exceptional Pathological lesions or conditions: Weight of Viscera in ounces Avoirdupois. |      |               |                                 |                                  |                            |                                    | Additional Remarks.                                                                                                                                                                                                    |                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                |                                                                     |
| No.                                                                                                   | Sex. | Age at Death. | Form of Insanity.               | Duration of Residence in Asylum. | Duration of Fatal Illness. | Apparent immediate Cause of Death. | Head and Spinal Column.                                                                                                                                                                                                | Thorax.                                                                                                                                                                                                       | Abdomen.                                                                                                                                                                                                                                                                       | Other parts of Body.                                                |
| 10.                                                                                                   | F.   | 73            | Mania, chronic: acute paroxysms | 26 years                         | 1 week                     | Exhaustion of senility and mania   | Weight of Brain, 41½ oz.: adherent Dura mater: small fibroid tumour pendent from Falx: spinal curvature                                                                                                                | Weight of Heart, 18½ oz. Heart fatty and enlarged: interlobular emphysema in anterior portion of right lung: apical pneumonic consolidation of left                                                           | Weight of Liver, 38½ oz. Hyperæmia of upper part of Duodenum: interstitial deposit in lower part of Ileum [Peritoneal coat]: modified or partial Umbilical Hernia: large cystic tumour of left ovary                                                                           | General osseous degeneration [softening]: general vascular atheroma |
| 11.                                                                                                   | F.   | 40            | Melancholia, Suicidal           | 6 days                           | 6 days                     | Pleurisy and Empyema               | Weight of Brain, 48½ oz.: firm adhesions of Dura mater to calvarium: softening of right crus cerebri in front of Pons: partial disorganization of right optic thalamus: lymphic exudation at upper part of spinal cord | Weight of Heart, 15 oz. Compression of left Lung: occupation of left pleural cavity by bloody-purulent fluid: abscess of lower cervical vertebrae: enlargement of right cardiac Auricle: pericardial effusion | Weight of Liver, 60½ oz. Weight of Spleen, 10½ oz. Hepatic enlargement—nutmeg character: induration of left suprarenal capsule: cysts of both ovaries                                                                                                                          | Suicidal wound of throat                                            |
| 12.                                                                                                   | M.   | 36            | Melancholia                     | 10 days                          | 10 days                    | Gastro-enteritis                   | Weight of Brain, 52 oz.: general cerebral oedema: serous distension of lateral ventricles                                                                                                                              | Weight of Right Lung, 19½ oz. Weight of Left Lung, 16 oz.                                                                                                                                                     | Weight of Liver 30 oz. Weight of Spleen, 7¼ oz. Weight of Right Kidney 7¼ oz. Weight of Left Kidney, 6½ oz. Intense Hyperæmia of stomach and intestines: peritoneal effusion and lymphic exudation: renal Hyperæmia                                                            |                                                                     |
| 13.                                                                                                   | F.   | 62            | Mania, acute                    | 2½ months                        | 2½ months                  | Strangulated Femoral Hernia        | Weight of Brain, 47 oz.: general cerebral softening: serous distension of lateral ventricles                                                                                                                           | Weight of Heart, 8½ oz. Weight of Right Lung, 16½ oz. Weight of Left Lung, 9¼ oz. Consolidation [pneumonic] of middle lobe of right lung                                                                      | Weight of Right Kidney 5 oz. Weight of Left Kidney, 4 oz. General Hyperæmia and discoloration of Intestines: intense inflammatory Hyperæmia of Ileum—a knuckle of which was strangulated as a Hernia in the crural canal: recent adhesions of intestines to abdominal parietes |                                                                     |



# IV.—OBITUARY FOR 1862-3—[CONTINUED].

| RESULTS OF POST MORTEM EXAMINATION.                                                                   |      |               |                        |                                  |                            |                                      |                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                 |                                                                                                |                                                                      |
|-------------------------------------------------------------------------------------------------------|------|---------------|------------------------|----------------------------------|----------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Prominent or exceptional Pathological lesions or conditions: Weight of Viscera in ounces Avoirdupois. |      |               |                        |                                  |                            |                                      |                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                 |                                                                                                |                                                                      |
| No.                                                                                                   | Sex. | Age at Death. | Form of Insanity.      | Duration of Residence in Asylum. | Duration of Fatal Illness. | Apparent immediate Cause of Death.   | Head and Spinal Column.                                                                                                                                        | Thorax.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Abdomen.                                                                                                                                                                                                        | Other parts of Body.                                                                           | Additional Remarks.                                                  |
| 14.                                                                                                   | M.   | 46            | Imbecility, congenital | 2½ years                         | 2½ weeks                   | Phthisis pulmonalis                  | Weight of Brain, 57 oz.: softening and disorganization [marked by presence of Amyloid bodies, &c.] of anterior cerebral lobes over cribriform plate of Ethmoid | Weight of Right Lung, 46 oz. Weight of Left Lung, 36 oz. Both infiltrated with Tubercles —mostly miliary in left: vomice in front of right and general adhesions to thoracic parietes<br>Weight of Heart, 15½ oz.<br>Weight of Right Lung, 27½ oz. Weight of Left Lung, 28¾ oz. Dilatation, with hypertrophy, of right side of heart: dilatation of right auriculo-ventricular opening: thickening, by deposit, of tricuspid valve: muscular texture of heart fatty. Left Lung and inferior lobe of right in state of pneumonic hepatization: displacement backwards of left Lung by enlarged and abnormally placed heart | Weight of Liver, 47½ oz.<br>Weight of Spleen, 4¾ oz.<br>Weight of Right Kidney 6 oz. Weight of Left Kidney, 5¼ oz.                                                                                              | Edema of left arm and plugging by clot of all its veins: slight plugging of right femoral vein | ..                                                                   |
| 15.                                                                                                   | F.   | 33            | Melancholia, Suicidal  | 6½ days                          | 6½ days                    | Valvular disease of heart: Pneumonia | Weight of Brain, 53½ oz.: Irregularity of cranial interior by angular projections and correspondingly deep fossæ, &c.                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Weight of Liver, 37½ oz.<br>Weight of Spleen, 3¼ oz.<br>Weight of Right Kidney 3½ oz. Weight of Left Kidney, 4½ oz. Fibrinous deposit in Spleen: Hyperæmia of left Kidney: inflammation of right Fallopian Tube | ..                                                                                             | Heart disease was apparently at least of 4 years' growth or duration |

The Deaths constitute 33·33 per cent. of the Discharges [including Deaths].

|                                                |       |
|------------------------------------------------|-------|
| Admissions.                                    | 31·91 |
| Mean daily number of Patients under treatment. | 8·43  |
| Total number under treatment during the year.  | 6·66  |

8 V.—SHEWING THE MINOR OR NON-FATAL AFFECTIONS  
OR DISEASES PREVALENT DURING 1862-3.

|                                    | 1862.                                                                     |      |        |           |         |          |          |         |          |       |       |     | 1863.       |    |  |  |  | TOTAL |
|------------------------------------|---------------------------------------------------------------------------|------|--------|-----------|---------|----------|----------|---------|----------|-------|-------|-----|-------------|----|--|--|--|-------|
|                                    | Number or frequency of such affections * or diseases during the Months of |      |        |           |         |          |          |         |          |       |       |     |             |    |  |  |  |       |
|                                    | June 9th to 30th                                                          | July | August | September | October | November | December | January | February | March | April | May | June to 8th |    |  |  |  |       |
| Abscess, ... ..                    | 2                                                                         | 1    | 2      | 0         | 0       | 4        | 1        | 2       | 2        | 1     | 1     | 1   | 0           | 17 |  |  |  |       |
| Apoplexy, ... ..                   | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 1     | 0   | 0           | 1  |  |  |  |       |
| „ congestive, ... ..               | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 1     | 0     | 0   | 0           | 1  |  |  |  |       |
| Bronchitis, ... ..                 | 0                                                                         | 0    | 0      | 0         | 1       | 1        | 0        | 0       | 1        | 1     | 1     | 1   | 0           | 6  |  |  |  |       |
| Caries of Carpus and Metacarpus,   | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 1     | 0     | 0   | 0           | 1  |  |  |  |       |
| Catarrh, ... ..                    | 1                                                                         | 0    | 0      | 0         | 1       | 1        | 3        | 2       | 4        | 1     | 2     | 1   | 0           | 16 |  |  |  |       |
| Clavicle, fracture of, ... ..      | 0                                                                         | 0    | 0      | 0         | 0       | 1        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Conjunctivitis, ... ..             | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 1     | 1     | 0   | 0           | 2  |  |  |  |       |
| Cranium, fracture of, ... ..       | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 1     | 0   | 0           | 1  |  |  |  |       |
| Cynanche parotidea, ... ..         | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 1        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| „ tonsillaris, ... ..              | 0                                                                         | 0    | 0      | 0         | 1       | 0        | 0        | 0       | 1        | 0     | 0     | 0   | 0           | 2  |  |  |  |       |
| Diarrhoea, ... ..                  | 2                                                                         | 1    | 9      | 3         | 3       | 1        | 1        | 0       | 1        | 2     | 1     | 1   | 0           | 25 |  |  |  |       |
| Dyspepsia, ... ..                  | 1                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Erysipelas, ... ..                 | 0                                                                         | 0    | 0      | 0         | 1       | 1        | 0        | 0       | 0        | 0     | 0     | 0   | 1           | 3  |  |  |  |       |
| Erythema, ... ..                   | 0                                                                         | 0    | 0      | 0         | 1       | 0        | 0        | 0       | 1        | 0     | 0     | 0   | 0           | 2  |  |  |  |       |
| Eczema, ... ..                     | 0                                                                         | 0    | 0      | 0         | 1       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Furunculi, ... ..                  | 0                                                                         | 3    | 0      | 0         | 2       | 3        | 2        | 1       | 1        | 1     | 1     | 1   | 1           | 16 |  |  |  |       |
| Hæmorrhoids [external], ... ..     | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 1        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| „ [internal], ... ..               | 0                                                                         | 0    | 0      | 1         | 0       | 0        | 0        | 0       | 1        | 0     | 0     | 0   | 0           | 2  |  |  |  |       |
| Hemiplegia, partial, ... ..        | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 1           | 1  |  |  |  |       |
| Hernia [double inguinal reducible] | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 1     | 0   | 0           | 1  |  |  |  |       |
| Herpes labialis, ... ..            | 0                                                                         | 1    | 0      | 0         | 1       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 2  |  |  |  |       |
| Menorrhagia, ... ..                | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 1        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Otitis [external], ... ..          | 1                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Paronychia, ... ..                 | 0                                                                         | 1    | 0      | 0         | 2       | 0        | 1        | 0       | 0        | 0     | 0     | 0   | 3           | 7  |  |  |  |       |
| Parulis, ... ..                    | 1                                                                         | 0    | 1      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 1     | 1   | 0           | 4  |  |  |  |       |
| Phlebitis, ... ..                  | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 1           | 1  |  |  |  |       |
| Poisoning by Laburnum Bark,        | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 1        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Psoriasis, ... ..                  | 0                                                                         | 1    | 0      | 0         | 0       | 0        | 0        | 1       | 0        | 0     | 0     | 1   | 0           | 3  |  |  |  |       |
| Rheumatism, ... ..                 | 1                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 1        | 0     | 0     | 1   | 0           | 3  |  |  |  |       |
| Ribs, fracture of, ... ..          | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 1       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Synovitis, ... ..                  | 0                                                                         | 0    | 0      | 0         | 1       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Tumour of Shoulder, ... ..         | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Ulcer, simple, ... ..              | 0                                                                         | 1    | 0      | 1         | 0       | 0        | 0        | 0       | 0        | 1     | 1     | 0   | 0           | 4  |  |  |  |       |
| „ weak, ... ..                     | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 1        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Urticaria, ... ..                  | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 1       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Varix, ... ..                      | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 0       | 0        | 0     | 0     | 0   | 0           | 1  |  |  |  |       |
| Wound [Scalp] of Head, ... ..      | 0                                                                         | 0    | 0      | 0         | 0       | 0        | 0        | 2       | 0        | 0     | 0     | 0   | 0           | 2  |  |  |  |       |

\* This does not necessarily indicate the number of *Patients* affected : inasmuch as the *same* Patient may be, and occasionally has been, the subject, at different times, or even at the same time, of *different* affections.



1.—SHEWING THE AVERAGE MAXIMUM NUMBER OF PATIENTS  
EMPLOYED DURING 1862-3.

| DEPARTMENTS OF LABOUR.               |                                                                                                                                            |  |  |  |  | Males. | Females. | Total. |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--------|----------|--------|
| 1.— <i>Gardener's Department.</i>    |                                                                                                                                            |  |  |  |  | 30     | ...      | 30     |
| a.                                   | Garden work proper—                                                                                                                        |  |  |  |  | 15     | ..       | 15     |
|                                      | Digging and trenching; pruning and hedging; planting and dressing; grass cutting; greenhouse and potting-house work, &c., ...              |  |  |  |  |        |          |        |
| b.                                   | Farm work—                                                                                                                                 |  |  |  |  |        |          |        |
|                                      | Pigs and piggeries, ...                                                                                                                    |  |  |  |  | 1      | ...      | 1      |
|                                      | Cows and byres, ...                                                                                                                        |  |  |  |  | 1      | ...      | 1      |
|                                      | Straw carrying, &c., ...                                                                                                                   |  |  |  |  | 6      | ...      | 6      |
| c.                                   | Pump work, ...                                                                                                                             |  |  |  |  | 10     | ...      | 10     |
| d.                                   | Assisting masons in building operations—                                                                                                   |  |  |  |  |        |          |        |
|                                      | Taking down walls; wheeling rubbish; digging foundations; laying out terraces, &c., ...                                                    |  |  |  |  | 15     | ...      | 15     |
| e.                                   | Miscellaneous—                                                                                                                             |  |  |  |  |        |          |        |
|                                      | Cutting down timber; splitting firewood, &c., ...                                                                                          |  |  |  |  | 6      | ...      | 6      |
| 2.— <i>Artizan Department.</i>       |                                                                                                                                            |  |  |  |  | 10     | ...      | 10     |
| a.                                   | Carpenter work, ...                                                                                                                        |  |  |  |  | 2      | ...      | 2      |
| b.                                   | Tailoring, ...                                                                                                                             |  |  |  |  | 2      | ...      | 2      |
| c.                                   | Shoemaking, ...                                                                                                                            |  |  |  |  | 3      | ..       | 3      |
| d.                                   | Painting and whitewashing, ...                                                                                                             |  |  |  |  | 3      | ...      | 3      |
| e.                                   | Basket making, ...                                                                                                                         |  |  |  |  | 1      | ...      | 1      |
| f.                                   | Mat and mattress making, ...                                                                                                               |  |  |  |  | 1      | ...      | 1      |
| 3.— <i>Milliner's Department.</i>    |                                                                                                                                            |  |  |  |  | 30     | ...      | 30     |
| a.                                   | Plain work—                                                                                                                                |  |  |  |  |        |          |        |
|                                      | Stocking making and mending; dress, shirt, and cap making; quilt, braces, and slipper making, &c., ...                                     |  |  |  |  | ...    | 25       | ...    |
| b.                                   | Fancy work—                                                                                                                                |  |  |  |  |        |          |        |
|                                      | Embroidery; crotchet, &c., ...                                                                                                             |  |  |  |  | ...    | 5        | 30     |
| 4.— <i>Laundry Department.</i>       |                                                                                                                                            |  |  |  |  |        |          |        |
|                                      | Washing; ironing; mangling; furnace attendance, &c., ...                                                                                   |  |  |  |  | ...    | 15       | 15     |
| 5.— <i>Kitchen Department.</i>       |                                                                                                                                            |  |  |  |  |        |          |        |
|                                      | Under cooks, ...                                                                                                                           |  |  |  |  | ...    | 2        | 2      |
| 6.— <i>House Department.</i>         |                                                                                                                                            |  |  |  |  |        |          |        |
|                                      | Assistants to housemaids, ...                                                                                                              |  |  |  |  | ...    | 2        | 2      |
| 7.— <i>Gallery Department.</i>       |                                                                                                                                            |  |  |  |  |        |          |        |
|                                      | Cleaning rooms and galleries; cleaning table furnishings, cutlery, &c.; bed making; coal carrying; fire tending; window cleaning, &c., ... |  |  |  |  | 15     | 10       | 25     |
| 8.— <i>Miscellaneous Department.</i> |                                                                                                                                            |  |  |  |  |        |          |        |
|                                      | Furnace assistance, ...                                                                                                                    |  |  |  |  | 1      | ...      | 1      |
|                                      | Coir picking and hair teasing; pillow and mattress stuffing, &c., ...                                                                      |  |  |  |  | 5      | 5        | 10     |

The foregoing indicate the principal kinds or departments of industrial operations engaged in. But, though, in certain cases, there is a special separation or division of labour, different individual or classes of Patients working only in special departments; more commonly the same patient, at different times, and under different conditions of his own mental and physical health, engages in two or more of the operations classified under the different departments aforesaid.

Average total number of Patients employed in all departments of industrial labour,—Males, 40; Females, 60—total, 100: or in other words about 50 per cent. of the males, 65 per cent. of the females, and  $57\frac{1}{2}$  per cent. of both sexes—calculating on the average numbers resident.

| DEPARTMENTS OF LABOUR.               | Value of<br>Articles Made. |    |    | Value of<br>Material Used. |    |    | Nett Value<br>of Labour. |    |    |
|--------------------------------------|----------------------------|----|----|----------------------------|----|----|--------------------------|----|----|
|                                      | £                          | s. | d. | £                          | s. | d. | £                        | s. | d. |
| 1.— <i>Gardener's Department.</i>    |                            |    |    |                            |    |    |                          |    |    |
| a. Garden, ... ..                    |                            |    |    |                            |    |    | 102                      | 7  | 6  |
| b. Pumps, ... ..                     |                            |    |    |                            |    |    | 88                       | 15 | 0  |
| c. Farm yard, ... ..                 |                            |    |    |                            |    |    | 20                       | 8  | 6  |
|                                      |                            |    |    |                            |    |    | 211                      | 11 | 0  |
| 2.— <i>Milliner's Department.</i>    |                            |    |    |                            |    |    |                          |    |    |
| a. Millinery, &c., ...               | 491                        | 15 | 4  | 385                        | 4  | 2  | 106                      | 11 | 2  |
| 3.— <i>Artizan Department.</i>       |                            |    |    |                            |    |    |                          |    |    |
| a. Shoemaker, ... ..                 | 85                         | 3  | 7  | 47                         | 11 | 9  | 37                       | 11 | 10 |
| b. Tailor, ... ..                    | 66                         | 18 | 1  | 43                         | 5  | 6  | 23                       | 12 | 7  |
| c. Carpenter, ... ..                 | 23                         | 2  | 9  | 10                         | 11 | 10 | 12                       | 10 | 11 |
| d. Blacksmith and Plumber,           | 3                          | 12 | 9  | —                          | 13 | 3  | 2                        | 19 | 6  |
| e. Glazier, ... ..                   | 9                          | 14 | 6  | 4                          | 2  | —  | 5                        | 12 | 6  |
| f. Mason, ... ..                     | —                          | —  | —  | —                          | —  | —  | —                        | 15 | 6  |
| 4.— <i>Miscellaneous Department.</i> |                            |    |    |                            |    |    |                          |    |    |
| a. Painter, &c., ... ..              | 113                        | 7  | 10 | 14                         | 10 | 3  | 98                       | 17 | 7  |
| Total, ... ..                        | 793                        | 14 | 10 | 505                        | 18 | 9  | 500                      | 2  | 7  |

TABLES RELATING TO DIETARIES.

I.—WEEKLY SCALE OF DIET FOR A MALE WORKING PAUPER.

|                                                                                                           | No. of Days | Weight in oz.<br>Avoirdupois |                                |                                         |
|-----------------------------------------------------------------------------------------------------------|-------------|------------------------------|--------------------------------|-----------------------------------------|
|                                                                                                           |             | Allowance<br>per Day         | Regular<br>Weekly<br>Allowance | Additional<br>& occasional<br>Allowance |
| 1.—Butcher Meat* † (1)—                                                                                   |             |                              |                                |                                         |
| a. { Roast or boiled, ... ..                                                                              | 3           | 8                            | 24                             | ...                                     |
| b. { In Soup or Broth (occasionally also on Wed-<br>nesdays in Winter), ... ..                            | 4           | 4½                           | 18                             | ...                                     |
| c. { In Meat and Potato Pie (baked), ... ..                                                               | 1           | 7                            | 7                              | ...                                     |
| d. { In lieu of Fruit Pie on Wednesdays in Win-<br>ter (mostly baked), ... ..                             | 1           | ...                          | ...                            | 4                                       |
| e. { In lieu of Fish; occasionally on Fridays<br>(mostly baked), ... ..                                   | 1           | ...                          | ...                            | 4                                       |
|                                                                                                           |             |                              | 57                             | ...                                     |
| * Deduction (2) for bone, fat, and refuse, about 35 per<br>cent., or ... ..                               | ...         | ...                          | 20                             | ...                                     |
| Nett, ... ..                                                                                              | ...         | ...                          | 37                             | ...                                     |
| † Includes fresh Beef, Mutton, and Pork, of best<br>quality.                                              |             |                              |                                |                                         |
| 2.—Fish—(3)—white (including Haddock, Cod, Flounder,<br>Herring), and Salt Fish (Cod and Ling)—to dinner, | 1           | 8                            | 8                              | ...                                     |

1. About one-fifth of the Butcher Meat consumed in the Institution is pickled or salted; the pickling materials being generally *Salt or Nitre*, and occasionally, in addition, Sugar and Spices (the latter especially in the case of Tongues).

2. The deduction in this and all other Dietary Tables of this Institution for Bone, Suet and refuse is *exclusive of loss by cooking*, which necessarily varies greatly, and cannot therefore be so precisely estimated.

3. About one-eighth of the Fish consumed in the Institution is salted or cured.



|                                                                                                                                                              | No. of Days $\frac{1}{7}$ Week | Weight in oz.<br>Avoirdupois |                          |                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------|--------------------------|-----------------------------------|
|                                                                                                                                                              |                                | Allowance $\frac{1}{7}$ Day  | Regular Weekly Allowance | Additional & occasional Allowance |
| 3.—Bread—white—best quality wheat (occasionally brown or currant Bread, &c.)—                                                                                | 7                              | 4                            | 28                       | ...                               |
| a. To Breakfast, .. .. .                                                                                                                                     | 6                              | 4                            | 24                       | ...                               |
| b. „ Lunch, ... .. .                                                                                                                                         | 7                              | 4 $\frac{4}{7}$              | 32                       | ...                               |
| c. „ Dinner, ... .. .                                                                                                                                        | 1                              | ...                          | ...                      | 2                                 |
| d. „ Occasionally on Wednesdays in Winter,                                                                                                                   | 3                              | 8                            | 24                       | ...                               |
| e. „ Supper, ... .. .                                                                                                                                        |                                |                              | 110                      | ...                               |
| 4.—Oatmeal—best Scotch—                                                                                                                                      | 7                              | 4                            | 28                       | ...                               |
| a. In Porridge, to Breakfast, ... .. .                                                                                                                       | 4                              | 4                            | 16                       | ...                               |
| b. „ „ „ Supper, ... .. .                                                                                                                                    | 1                              | ...                          | ...                      | 6 $\frac{1}{2}$                   |
| c. In Meal Pudding on Sundays occasionally—to dinner, ... .. .                                                                                               |                                |                              | 50 $\frac{1}{2}$         | ...                               |
| 5.—Wheaten Flour—best American—                                                                                                                              |                                |                              |                          |                                   |
| a. In Fruit and Meat Pie (crust or pastry), ... .. .                                                                                                         | 2                              | 2                            | 4                        | ...                               |
| b. „ Currant Pudding or Dumpling, } To Dinner.<br>occasionally, .. .. .                                                                                      | 1                              | ...                          | ...                      | 5                                 |
|                                                                                                                                                              |                                |                              | 9                        | ...                               |
| 6.—Barley—Pearl—best Scotch—                                                                                                                                 |                                |                              |                          |                                   |
| a. In Broth—To dinner (occasionally also on Wednesdays in Winter), ... .. .                                                                                  | 3                              | 1 $\frac{1}{4}$              | 3 $\frac{3}{4}$          | ...                               |
| 7.—Potatoes *—best Scotch—                                                                                                                                   |                                |                              |                          |                                   |
| a. { With Meat, ... .. .                                                                                                                                     | 4                              | 14                           | 56                       | ...                               |
| b. To Dinner. { In Meat and Potato Pie, ... .. .                                                                                                             | 1                              | 12                           | 12                       | ...                               |
| c. { Occasionally on Wednesdays in Winter, ... .. .                                                                                                          | 1                              | ...                          | ...                      | 8                                 |
|                                                                                                                                                              |                                |                              | 76                       | ...                               |
| * Other Vegetables (as immediately undermentioned) occasionally substituted when Potatoes are bad or scarce.                                                 |                                |                              |                          |                                   |
| 8.—Miscellaneous Vegetables—(including Carrot, Turnip, Cabbage, Cauliflower, Greens (Kail), Brussels Sprouts, Leeks and Onions, Parsley, Beans, Green Peas)— |                                |                              |                          |                                   |
| a. { In Broth or Soup (mixed Vegetables) —occasionally, also, on Wednesdays in Winter, ... .. .                                                              | 4                              | 4 $\frac{1}{2}$              | 18                       | ...                               |
| b. To Dinner. { With Meat, (Greens, &c.), ... .. .                                                                                                           | 3                              | 2 $\frac{2}{3}$              | 8                        | ...                               |
| c. { In Oatmeal Pudding (Onions only) —on Sundays, occasionally, .. .. .                                                                                     | 1                              | $\frac{3}{4}$                | ...                      | $\frac{3}{4}$                     |
| d. { In Meat Pie—Beef, Mutton, or Pork —(Onions only), ... .. .                                                                                              | 1                              | $\frac{1}{2}$                | $\frac{1}{2}$            | ...                               |
|                                                                                                                                                              |                                |                              | 27 $\frac{1}{4}$         | ...                               |
| 9.—Fruit, miscellaneous—(including Rhubarb, Apples, Pears, Currants, Gooseberries, Strawberries, Raspberries, Blackberries),                                 |                                |                              |                          |                                   |
| a. { In Fruit Pie, ... .. .                                                                                                                                  | 1                              | 16                           | 16                       | ...                               |
| b. To Dinner. { As Dessert—occasionally, ... .. . } in Spring and Summer.                                                                                    | 3                              | 5                            | ...                      | 15                                |
| c. { In Dumplings—as Jam or Jelly—in Winter.                                                                                                                 | 1                              | ...                          | ...                      | 1                                 |
|                                                                                                                                                              |                                |                              | 32                       | ...                               |





|                                                                                                                                                      | No. of Days | per Week | Weight in oz.<br>Avoirdupois |                                |                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|------------------------------|--------------------------------|-----------------------------------------|
|                                                                                                                                                      |             |          | Allowance<br>per Day         | Regular<br>Weekly<br>Allowance | Additional<br>& occasional<br>Allowance |
| 1.—Butcher Meat * †—                                                                                                                                 |             |          |                              |                                |                                         |
| a. { Roast, baked, boiled, or stewed—<br>(including Meat Pie (1) and Irish<br>Stew (2) occasionally),                                                | 5           | 10       | 50                           | ...                            |                                         |
| b. { To Dinner. { In Soup or Broth, (3) ...                                                                                                          | 7           | 1        | 7                            | ...                            |                                         |
| c. { In lieu of Fish, ...                                                                                                                            | 1           | 10       | ...                          | 10                             |                                         |
|                                                                                                                                                      |             |          |                              | 67                             | ...                                     |
| * Deduction for bone, fat, and refuse, about 35 per cent., or ... ..                                                                                 |             |          |                              | 23                             | ...                                     |
| Nett, ... ..                                                                                                                                         |             |          |                              | 44                             | ...                                     |
| † Includes fresh Beef, Mutton, Pork, Lamb, and Veal; as well as Bacon—all of best quality.                                                           |             |          |                              |                                |                                         |
| 2.—Rabbits (after deduction of about 20 per cent. for bone, &c.)                                                                                     |             |          |                              |                                |                                         |
| To Dinner—in Pie or stewed, ... ..                                                                                                                   | 1           | 10       | 10                           | ...                            |                                         |
| 3.—Fish—white (including Haddock, Cod, Whiting, Flounder, Herring)—                                                                                  |             |          |                              |                                |                                         |
| a. In lieu of Meat—occasionally when fish are plentiful, ... ..                                                                                      | 1           | 10       | 10                           | ...                            |                                         |
|                                                                                                                                                      |             |          |                              | ...                            | 10                                      |
|                                                                                                                                                      |             |          |                              | 20                             | ...                                     |
| 4.—Bread—white—best quality wheat (including Scones, Rolls, Biscuits, &c.)—                                                                          |             |          |                              |                                |                                         |
| a. To Breakfast—with Tea or Coffee, ... ..                                                                                                           | 7           | 9        | 63                           | ...                            |                                         |
| b. „ Tea, do., ... ..                                                                                                                                | 7           | 9        | 63                           | ...                            |                                         |
| c. „ Dinner, ... ..                                                                                                                                  | 7           | 2        | 14                           | ...                            |                                         |
| d. „ „ in lieu of Potatoes—occasionally—when Potatoes are bad or scarce, ... ..                                                                      | 1           | ...      | ...                          | 3                              |                                         |
|                                                                                                                                                      |             |          |                              | 143                            | ...                                     |
| 5.—Oatmeal—best Scotch—                                                                                                                              |             |          |                              |                                |                                         |
| To Breakfast or Tea—as Cakes, .. ..                                                                                                                  | 1           | 2½       | 2½                           | ...                            |                                         |
| 6.—Wheaten Flour—best American—                                                                                                                      |             |          |                              |                                |                                         |
| a. { In Fruit and Meat Pie (crust or pastry), ... ..                                                                                                 | 2           | 1½       | 3                            | ...                            |                                         |
| b. To Dinner. { In Currant, Rhubarb, or Apple Dumplings, or Puddings, ...                                                                            | 1           | 2        | 2                            | ...                            |                                         |
|                                                                                                                                                      |             |          |                              | 5                              | ...                                     |
| 7.—Barley—Pearl—best Scotch—                                                                                                                         |             |          |                              |                                |                                         |
| To Dinner—in Broth, ... ..                                                                                                                           | 5           | 1        | 5                            | ...                            |                                         |
| 8.—Potatoes *—best Scotch—                                                                                                                           |             |          |                              |                                |                                         |
| To Dinner, ... ..                                                                                                                                    | 7           | 14       | 98                           | ...                            |                                         |
| * Other Vegetables (as immediately undermentioned) occasionally substituted when Potatoes are bad or scarce.                                         |             |          |                              |                                |                                         |
| 9.—Miscellaneous Vegetables—(including Carrot, Turnip, Cabbage, Greens, Brussels Sprouts, Cauliflower, Peas, Beans, Onions and Leeks, Parsley, &c.)— |             |          |                              |                                |                                         |
| a. { In Broth or Soup, ... ..                                                                                                                        | 7           | 2        | 14                           | ...                            |                                         |
| b. To Dinner. { With Meat—as Salad, &c., ... ..                                                                                                      | 4           | 4        | 16                           | ...                            |                                         |
| c. { Do., occasionally in Summer when abundant, ... ..                                                                                               | 2           | 4        | ...                          | 8                              |                                         |
|                                                                                                                                                      |             |          |                              | 38                             | ...                                     |

1. *Meat Pie* consists of 5 oz. Meat, 2 oz. Flour, 1 oz. Lard, per person.
2. *Irish Stew* consists of 5 oz. Meat and 5 oz. Potatoes, Onions, &c., per person.
3. *Liquor of Cooked Meat* is the basis of most Broths and Soups.

## II.—WEEKLY SCALE OF DIET FOR A MALE PATIENT OF THE INTERMEDIATE CLASS.

|                                                                                                                                                                        | No. of Days | per Week | Weight in oz. Avoirdupois |                          |                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|---------------------------|--------------------------|-----------------------------------|
|                                                                                                                                                                        |             |          | Allowance per Day         | Regular Weekly Allowance | Additional & occasional Allowance |
| 10.—Fruit, miscellaneous (4) — (including Rhubarb, Apples, Pears, Gooseberries, Strawberries, Raspberries, Blackberries, Plums, Currants, (5) Raisins, Cherries, &c.)— |             |          |                           |                          |                                   |
| a. In Pie, (6) Tart, or Dumpling, ...                                                                                                                                  | 1           | 6        | 6                         | ...                      |                                   |
| b. To Dinner. { Do., in lieu of Rice or other Pudding, occasionally, ...                                                                                               | 1           | 6        | ...                       | 6                        |                                   |
| c. As Dessert—in Summer, ...                                                                                                                                           | 4           | 6        | ...                       | 24                       |                                   |
| d. „ Tea—as Jam or Jelly—in Winter, ...                                                                                                                                | 1           | 1        | 1                         | ...                      |                                   |
|                                                                                                                                                                        |             |          |                           | 37                       | ...                               |
| 11.—Peas—dry—split—best Scotch—                                                                                                                                        |             |          |                           |                          |                                   |
| a. In Pea Soup, ...                                                                                                                                                    | 1           | 2        | 2                         | ...                      |                                   |
| b. To Dinner. { In lieu of Barley in Broth—occasionally, ...                                                                                                           | 1           | 2        | ...                       | 2                        |                                   |
|                                                                                                                                                                        |             |          |                           | 4                        | ...                               |
| 12.—Rice—best Patna—(including Ground Rice, Sago, &c.)—                                                                                                                |             |          |                           |                          |                                   |
| a. In Soup, ...                                                                                                                                                        | 1           | 1        | 1                         | ...                      |                                   |
| b. To Dinner. { In Rice or other Pudding (7)—(or as “Rice and Milk” (8) occasionally),                                                                                 | 1           | 1½       | 1½                        | ...                      |                                   |
|                                                                                                                                                                        |             |          |                           | 2½                       | ...                               |
| 13.—Sugar—best Brown—                                                                                                                                                  |             |          |                           |                          |                                   |
| a. To Breakfast, with Coffee, ...                                                                                                                                      | 7           | 1½       | 8                         | ...                      |                                   |
| b. „ Tea, „ Tea, ...                                                                                                                                                   | 7           | 1        | 7                         | ...                      |                                   |
| c. „ Dinner. { In Fruit Pie or Puddings, ...                                                                                                                           | 2           | 1¼       | 2½                        | ...                      |                                   |
| d. „ Do. occasionally in Summer, ...                                                                                                                                   | 1           | 2        | ...                       | 2                        |                                   |
|                                                                                                                                                                        |             |          |                           | 19½                      | ...                               |
| 14.—Butter—Salt and Fresh—best Scotch—                                                                                                                                 |             |          |                           |                          |                                   |
| a. To Breakfast, ...                                                                                                                                                   | 7           | ½        | 3½                        | ...                      |                                   |
| b. „ Tea, ...                                                                                                                                                          | 7           | ½        | 3½                        | ...                      |                                   |
| c. „ Dinner—in Pie crust, and Sauce, ...                                                                                                                               | 3           | ½        | 1½                        | ...                      |                                   |
|                                                                                                                                                                        |             |          |                           | 8½                       | ...                               |
| 15.—Suet, Fat, Lard, &c.—                                                                                                                                              |             |          |                           |                          |                                   |
| a. In Broth or Soup—(Dripping, Marrow, &c.), ...                                                                                                                       | 7           | ½        | 3½                        | ...                      |                                   |
| b. To Dinner. { In Dumplings or Puddings—(Suet),                                                                                                                       | 1           | 1½       | 1½                        | ...                      |                                   |
| c. In Fruit and Meat Pie crust—(Lard),                                                                                                                                 | 2           | 1        | 2                         | ...                      |                                   |
|                                                                                                                                                                        |             |          |                           | 7                        | ...                               |
| 16.—Milk—best sweet—sp. gr. 1030-5—                                                                                                                                    |             |          |                           |                          |                                   |
| a. To Breakfast, with Coffee, ...                                                                                                                                      | 7           | 3        | 21                        | ...                      |                                   |
| b. „ Tea, „ Tea, ...                                                                                                                                                   | 7           | 2        | 14                        | ...                      |                                   |
| c. „ „ Rice or other Pudding, ...                                                                                                                                      | 1           | 10       | 10                        | ...                      |                                   |
| d. „ Dinner, { Do. in lieu of Tart—occasionally, ...                                                                                                                   | 1           | 10       | ...                       | 10                       |                                   |
|                                                                                                                                                                        |             |          |                           | 55                       | ...                               |

4. *Fruit Dumpling* consists of 5 oz. Apples, Gooseberries, &c., 2½ oz. Flour, 1½ oz. Sugar, 1 oz. Lard, per person.

5. *Currant Dumpling* consists of 4 oz. Flour, 3 oz. Suet, 2 oz. Currants, 1 oz. Sugar, per person.

6. *Fruit Pie* consists of 4 oz. Fruit, 1½ oz. Flour, 1½ oz. Sugar, 1 oz. Lard, per person.

7. *Rice Pudding* consists of 1½ oz. Rice, 1½ oz. Sugar, and 8 oz. milk, per person.

8. *Rice and Milk* consists of 3 oz. Rice, 1 oz. Sugar, 12 oz. Milk, per person.



|                                                         | No. of Days $\frac{1}{3}$ Week. | Weight in oz. Avoirdupois.   |                           |                                    |
|---------------------------------------------------------|---------------------------------|------------------------------|---------------------------|------------------------------------|
|                                                         |                                 | Allowance $\frac{1}{3}$ Day. | Regular Weekly Allowance. | Additional & occasional Allowance. |
| 17.—Cheese —best Gouda—<br>To Dinner—on Sundays, ... .. | 1                               | 1                            | 1                         | ...                                |
| 18.—Beer—best Scotch—<br>To Dinner, ... ..              | 7                               | 15 Drms.                     | 105 Oz. Dr.               | ...                                |
| 19.—Tea,* or Coffee,*<br>a. To Breakfast—Coffee, ... .. | 7                               | 7                            | 3 1                       |                                    |
| b. „ Tea—Tea, ... ..                                    | 7                               | 3½                           | 1 8½                      |                                    |
|                                                         |                                 |                              | 4 9½                      |                                    |

\* 12 drachms *Cocoa* may be substituted at morning and evening meals, or both; and Tea or Coffee may be substituted for the other at either meal.

III.—WEEKLY SCALE OF DIET FOR A MALE PATIENT OF THE HIGHER CLASS.

|                                                                                                                                                                              | No. of Days $\frac{1}{3}$ Week. | Weight in oz. Avoirdupois   |                          |                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------|--------------------------|-----------------------------------|
|                                                                                                                                                                              |                                 | Allowance $\frac{1}{3}$ Day | Regular Weekly Allowance | Additional & occasional Allowance |
| 1.—Butcher Meat * †—<br>a. To Dinner { Roast, boiled, baked, or stewed (Irish stew, (1) &c.), ... ..                                                                         | 4                               | 10                          | 40                       | ...                               |
| b. „ { Do. ... .. occasionally,                                                                                                                                              | 1                               | 4                           | ...                      | 4                                 |
| c. To Dinner { In Meat Pie, (2) ... ..                                                                                                                                       | 1                               | 8                           | 8                        | ...                               |
| d. To Breakfast { In Soup or Broth, ... ..                                                                                                                                   | 7                               | 2                           | 14                       | ...                               |
| e. To Breakfast (generally cold Meat, Ham, Tongue; or Ham and Eggs, &c.), ... ..                                                                                             | 2                               | 3                           | 6                        | ...                               |
|                                                                                                                                                                              |                                 |                             | 72                       | ...                               |
| * Deduction for bone, fat, and refuse, about 35 per cent., or ... ..                                                                                                         | ...                             | ...                         | 25                       | ...                               |
| Nett, ... ..                                                                                                                                                                 | ...                             | ...                         | 47                       | ...                               |
| † Includes fresh Beef, Mutton, Pork, Lamb, Veal; as well as Ham and Bacon, all of best quality.                                                                              |                                 |                             |                          |                                   |
| 2.—Poultry and Game—(including Fowls, Ducks, Pigeons, Rabbits, &c.)—after deduction of about 20 per cent. for bone, &c.)—<br>a. To Dinner. { In lieu of Butcher Meat, ... .. | 1                               | 10                          | 10                       | ...                               |
| b. „ { Do. ... .. occasionally,                                                                                                                                              | 1                               | 5                           | ...                      | 5                                 |
|                                                                                                                                                                              |                                 |                             | 15                       | ...                               |
| 3.—Fish—(including Haddock, Cod, Flounder, Whiting, Sole, Ling, Herring, Salmon, Trout; and Shell Fish—Crab, &c.)—<br>a. To Dinner. { In lieu of Butcher Meat, ... ..        | 1                               | 8                           | 8                        | ...                               |
| b. „ { Do. ... .. occasionally,                                                                                                                                              | 1                               | 4                           | ...                      | 4                                 |
| c. „ Breakfast, Do. ... ..                                                                                                                                                   | 3                               | 6                           | 18                       | ...                               |
|                                                                                                                                                                              |                                 |                             | 30                       | ...                               |

1. *Irish Stew* consists of 6 oz. Meat, 6 oz. Potatoes and Onions, &c., per person.

2. *Meat Pie* „ 5 oz. „ 13 oz. Flour, 2 oz. Lard, „

|                                                                                                                                                                                               | No. of Days $\frac{1}{3}$ Week. | Weight in oz.<br>Avoirdupois. |                                 |                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------|---------------------------------|------------------------------------------|
|                                                                                                                                                                                               |                                 | Allowance<br>Day.             | Regular<br>Weekly<br>Allowance. | Additional<br>& occasional<br>Allowance. |
| 4.—Bread—white—best wheaten—(including Scones, Rolls, Biscuits, Cakes, &c.)—                                                                                                                  |                                 |                               |                                 |                                          |
| a. To Breakfast, ... ..                                                                                                                                                                       | 7                               | 8                             | 56                              | ...                                      |
| b. „ Tea,... ..                                                                                                                                                                               | 7                               | 8                             | 56                              | ...                                      |
| c. „ Dinner. { With Meat, ... ..                                                                                                                                                              | 7                               | 2                             | 14                              | ...                                      |
| d. „ { In lieu of Potatoes—occasionally,                                                                                                                                                      | 1                               | 4                             | ...                             | 4                                        |
|                                                                                                                                                                                               |                                 |                               | 130                             | ...                                      |
| 5.—Oatmeal—best Scotch—                                                                                                                                                                       |                                 |                               |                                 |                                          |
| As Cakes or Pudding—to Dinner, Breakfast, or                                                                                                                                                  | 1                               | 2                             | 2                               | ...                                      |
| Tea, ... .. Do. ... occasionally,                                                                                                                                                             | 1                               | 2                             | ...                             | 2                                        |
|                                                                                                                                                                                               |                                 |                               | 4                               | ...                                      |
| 6.—Wheaten Flour—best American—                                                                                                                                                               |                                 |                               |                                 |                                          |
| a. { In Meat or Fruit Pie, or Tart crusts,                                                                                                                                                    | 4                               | 1½                            | 6                               | ...                                      |
| b. To Dinner, { „ Suet or Fruit Dumpling—occa-                                                                                                                                                | 1                               | 2                             | ...                             | 2                                        |
| c. „ Tea, { sionally, ... .. do.,                                                                                                                                                             | 1                               | 3                             | ...                             | 3                                        |
|                                                                                                                                                                                               |                                 |                               | 11                              | ...                                      |
| 7.—Barley—Pearl—best Scotch—                                                                                                                                                                  |                                 |                               |                                 |                                          |
| To Dinner—in Broth, ... ..                                                                                                                                                                    | 3                               | 1                             | 3                               | ...                                      |
| 8.—Potatoes—best Scotch—                                                                                                                                                                      |                                 |                               |                                 |                                          |
| To Dinner, ... ..                                                                                                                                                                             | 7                               | 14                            | 98                              | ...                                      |
| 9.—Miscellaneous Vegetables—(including those used in the Pauper and Intermediate Dietaries:—and in addition Beet Root, Lettuce, Radish, Seakale, Asparagus, Celery, &c.)—                     |                                 |                               |                                 |                                          |
| a. To Dinner. { In Soup, ... ..                                                                                                                                                               | 7                               | 2                             | 14                              | ...                                      |
| b. { With Meat—as Salad, &c., ... ..                                                                                                                                                          | 7                               | 4                             | 28                              | ...                                      |
|                                                                                                                                                                                               |                                 |                               | 42                              | ...                                      |
| 10.—Fruit, (1) miscellaneous—(including that used in the Pauper and Intermediate Dietaries:—and in addition, especially in Winter,—as Dessert,—Oranges, Figs, Prunes, Raisins, Almonds, &c.)— |                                 |                               |                                 |                                          |
| a. To Dinner. { In Tarts, (2) Dumplings, (3) or Puddings                                                                                                                                      | 3                               | 4                             | 12                              | ...                                      |
| b. { As Dessert, ... ..                                                                                                                                                                       | 4                               | 3                             | 12                              | ...                                      |
| c. „ Tea—as Jams or Jellies—occasionally,                                                                                                                                                     | 3                               | 2                             | ...                             | 6                                        |
|                                                                                                                                                                                               |                                 |                               | 30                              | ...                                      |
| 11.—Peas—dry—split—best Scotch—                                                                                                                                                               |                                 |                               |                                 |                                          |
| a. { In Pea Soup, ... ..                                                                                                                                                                      | 1                               | 2                             | 2                               | ...                                      |
| b. To Dinner. { „ lieu of Barley in Broth—occa-                                                                                                                                               | 1                               | 2                             | ...                             | 2                                        |
| c. { sionally, ... .. do.,                                                                                                                                                                    | 1                               | 1                             | ...                             | 1                                        |
|                                                                                                                                                                                               |                                 |                               | 5                               | ...                                      |
| 12.—Rice—best Patna—(including Ground Rice, Sago, Tapioca, Indian Corn, Oswego Corn, Maizena, &c.)—                                                                                           |                                 |                               |                                 |                                          |
| a. To Dinner. { In Soup, ... ..                                                                                                                                                               | 1                               | 1                             | 1                               | ...                                      |
| b. { „ Rice or other Puddings, ... ..                                                                                                                                                         | 3                               | 1½                            | 4½                              | ...                                      |
|                                                                                                                                                                                               |                                 |                               | 5½                              | ...                                      |

1. *Fruit Pie* consists of 5 oz. Fruit, 2 oz. Flour, 1½ oz. Lard, 1½ oz. Sugar, per person.
2. *Tart* „ 1 oz. Jam, 2 oz. „ 1 oz. „ „
3. *Fruit Dumpling* „ 4 oz. Fruit, 3 oz. „ 1½ oz. „ 1½ oz. „ „



17

TABLES RELATING TO DIETARIES—[CONTINUED].

III.—WEEKLY SCALE OF DIET FOR A MALE PATIENT OF THE  
HIGHER CLASS.

|                                                                  | No. of Days $\frac{1}{3}$ Week | Weight in oz.<br>Avoirdupois |                          |                                    |
|------------------------------------------------------------------|--------------------------------|------------------------------|--------------------------|------------------------------------|
|                                                                  |                                | Allowance $\frac{1}{3}$ Day  | Regular Weekly Allowance | Additional & occasional Allowance. |
| 13.—Sugar—(including best Brown, Crushed, White Loaf, &c.)—      |                                |                              |                          |                                    |
| a. To Breakfast, ... ..                                          | 7                              | $1\frac{1}{4}$               | 8                        | ...                                |
| b. „ Tea, ... ..                                                 | 7                              | 1                            | 7                        | ...                                |
| c. „ Dinner. { In Fruit Pie, Tarts, &c., ...                     | 3                              | 2                            | 6                        | ...                                |
| d. „ „ Rice, Suet, or other Puddings,                            | 4                              | $\frac{1}{2}$                | 2                        | ...                                |
|                                                                  |                                |                              | 23                       | ...                                |
| 14.—Butter—Fresh and Salt—best Scotch—                           |                                |                              |                          |                                    |
| a. To Breakfast, ... ..                                          | 7                              | $\frac{1}{2}$                | $3\frac{1}{2}$           | ...                                |
| b. „ Tea, ... ..                                                 | 7                              | $\frac{1}{2}$                | $3\frac{1}{2}$           | ...                                |
| c. „ Dinner—in Pastry, Cakes, Fish and other Sauces, &c., ... .. | 5                              | $\frac{2}{5}$                | 2                        | ...                                |
| 15.—Suet, Fat, Lard, &c.—                                        |                                |                              |                          |                                    |
| a. { In Soup—(Dripping, Marrow, &c.),                            | 7                              | $\frac{1}{2}$                | $3\frac{1}{2}$           | ...                                |
| b. To Dinner. { „ Suet Puddings, ...                             | 1                              | 2                            | 2                        | ...                                |
| c. „ „ Pastry, Tarts, &c., ...                                   | 4                              | 1                            | 4                        | ...                                |
|                                                                  |                                |                              | $9\frac{1}{2}$           | ...                                |
| 16.—Milk—best sweet—sp. gr. 1030-5 : and Cream—                  |                                |                              |                          |                                    |
| a. To Breakfast, ... ..                                          | 7                              | 3                            | 21                       | ...                                |
| b. „ Tea, ... ..                                                 | 7                              | 3                            | 21                       | ...                                |
| c. „ Dinner—with Puddings or Fruit, ...                          | 5                              | 6                            | 30                       | ...                                |
|                                                                  |                                |                              | 72                       | ...                                |
| 17.—Cheese—best Gouda, Gloucester, Cheshire, &c.—                |                                |                              |                          |                                    |
| a. To Dinner. { As Dessert, ... ..                               | 1                              | 1                            | 1                        | ...                                |
| b. „ „ Do. „ occasionally,                                       | 6                              | 1                            | ...                      | 6                                  |
|                                                                  |                                |                              | 7                        | ...                                |
| 18.—Eggs—                                                        |                                |                              |                          |                                    |
| a. To Breakfast, ... ..                                          | 3                              | 2                            | 6                        | ...                                |
| b. „ Tea—in Cake, &c.—occasionally, ...                          | 1                              | 2                            | ...                      | 2                                  |
| c. „ Dinner—in Puddings, ... ..                                  | 3                              | 2                            | 6                        | ...                                |
|                                                                  |                                |                              | 14                       | ...                                |
| 19.—Beer—best Scotch—                                            |                                |                              |                          |                                    |
| To Dinner, ... ..                                                | 7                              | 15 Drms.                     | 105 Oz.                  | ...                                |
| 20.—Tea or Coffee *—                                             |                                |                              |                          |                                    |
| a. To Breakfast—Coffee, ... ..                                   | 7                              | 8                            | $3\frac{1}{2}$           | ...                                |
| b. „ Tea—Tea, ... ..                                             | 7                              | 4                            | $1\frac{3}{4}$           | ...                                |
|                                                                  |                                |                              | $5\frac{3}{4}$           | ...                                |

\* 12 drachms *Cocoa* may be substituted at morning or evening meals or at both ; and Coffee or Tea may be substituted for the other at either meal.

TABLES RELATING TO DIETARIES—[CONTINUED].  
IV.—WEEKLY SCALE OF DIET FOR A MALE ATTENDANT.

|                                                                                                             | No. of Days $\frac{1}{3}$ Week | Weight in oz.<br>Avoirdupois |                          |                                   |
|-------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------|--------------------------|-----------------------------------|
|                                                                                                             |                                | Allowance $\frac{1}{3}$ Day  | Regular Weekly Allowance | Additional & occasional Allowance |
| 1.—Butcher Meat * †—                                                                                        |                                |                              |                          |                                   |
| a. { Roast, baked, boiled, { partly in form                                                                 | 5                              | 13                           | 65                       | ...                               |
| b. To Dinner. { or stewed, { of Meat Pie, (1)                                                               | 1                              | 8                            | 8                        | ...                               |
| c. { Do. { & Irish stew, (2)                                                                                | 7                              | 1                            | 7                        | ...                               |
|                                                                                                             |                                |                              | 80                       | ...                               |
| * Deduction for bone, fat, and refuse, from 32 to 38 per cent., or ... ..                                   | ...                            | ...                          | 26                       | ...                               |
| Nett, ... ..                                                                                                | ...                            | ...                          | 54 ‡                     | ...                               |
| † Includes fresh Beef, Mutton, and Pork; as well as Bacon—all of best quality.                              |                                |                              |                          |                                   |
| 2.—Rabbits—To Dinner—stewed, or in Pie—(after deduction of about 20 per cent. for bone, &c.),               | 1                              | 14                           | 14                       | ...                               |
| 3.—Fish—white (including Haddock, Cod, Flounder, and Herring; and Salt Fish—Cod and Ling)—To Dinner, ... .. | 1                              | 10                           | 10                       | ...                               |
| 4.—Bread—white—best wheaten—                                                                                |                                |                              |                          |                                   |
| a. To Dinner, Breakfast, Tea, and Supper, ...                                                               | 7                              | 24                           | 168                      | ...                               |
| b. „ Do., in lieu of Potatoes, ...                                                                          | 1                              | 8                            | ..                       | 8                                 |
|                                                                                                             |                                |                              | 176                      | ...                               |
| 5.—Wheaten Flour—best American—                                                                             |                                |                              |                          |                                   |
| a. To Dinner. { In Meat and Fruit Pie crust, ...                                                            | 2                              | 2½                           | 5                        | ...                               |
| b. „ { „, Suet Dumpling, ...                                                                                | 1                              | 3                            | ...                      | 3                                 |
|                                                                                                             |                                |                              | 8                        | ...                               |
| 6.—Barley—Pearl—best Scotch—                                                                                |                                |                              |                          |                                   |
| To Dinner—in Broth or Soup, ... ..                                                                          | 5                              | 1                            | 5                        | ...                               |
| 7.—Potatoes—best Scotch—To Dinner, ...                                                                      | 7                              | 20                           | 140                      | ...                               |
| 8.—Vegetables—miscellaneous—(including those specified in the Pauper and Intermediate Dietaries)—           |                                |                              |                          |                                   |
| a. { In Broth or Soup, ... ..                                                                               | 7                              | 3                            | 21                       | ...                               |
| b. To Dinner. { With Meat, ... ..                                                                           | 3                              | 4                            | 12                       | ...                               |
| c. { In lieu of Potatoes—occasionally, ...                                                                  | 2                              | 4                            | ...                      | 8                                 |
|                                                                                                             |                                |                              | 41                       | ...                               |
| 9.—Fruit, miscellaneous—(including that specified in the Pauper and Intermediate Dietaries)—                |                                |                              |                          |                                   |
| a. { In Fruit Pie, (3) ... ..                                                                               | 1                              | 9                            | 9                        | ..                                |
| b. To Dinner. { Do., in lieu of Pudding—occasionally, ... ..                                                | 1                              | 9                            | ...                      | 9                                 |
| c. { „, Jam Tart (as Jam or Jelly), do., ...                                                                | 1                              | 4                            | ...                      | 4                                 |
| d. { As Dessert—in Summer ...                                                                               | 3                              | 5                            | 15                       | ...                               |
|                                                                                                             |                                |                              | 37                       | ...                               |

1. *Meat Pie* consists of 6 oz. Meat, 3 oz. Flour, 1 oz. Lard, per person.

2. *Irish Stew* consists of 8 oz. Meat, 5 oz. Potatoes and Onions, &c., per person.

3. *Fruit Pie* consists of 3 oz. Fruit, 1½ oz. Flour, 1 oz. Lard, 1 oz. Sugar, „

‡ A close examination of the two series of Tables relating to the Dietaries of this Institution will disclose certain minor differences or discrepancies in the figures, which admit of easy and satisfactory explanation. The one series represents regulation scales or allowances, arranged on the principle of the average quantities supposed to be necessary for the due nutrition of healthy sane adults. The other sets forth the actual consumpt of the patients,—a consumpt which implies deviations,—depending on variations in the circumstances or requirements of the consumers,—from the standards contained in the old printed Diet Tables of the Institution. The one set of Tables gives a calculation of averages: the other exhibits the results of experience. And that differences must of necessity exist under such circumstances,—in any system of judicious and liberal dietetics, where the real interests of the patients are not sacrificed to official routine and regulation,—has been amply shown in the body of this Report, under the section on Asylum Dietetics.



TABLES RELATING TO DIETARIES—[CONTINUED].  
IV.—WEEKLY SCALE OF DIET FOR A MALE ATTENDANT.

19

|                                                                                    | No. of Days | per Week | Weight in oz. Avoirdupois |                          |                                   |
|------------------------------------------------------------------------------------|-------------|----------|---------------------------|--------------------------|-----------------------------------|
|                                                                                    |             |          | Allowance per Day         | Regular Weekly Allowance | Additional & occasional Allowance |
| 10.—Peas—split—dry—best Scotch—<br>To Dinner—In Pea Soup, ...                      | 1           | 3        | 3                         | ...                      | ...                               |
| 11.—Rice—best Patna—(including Ground Rice),<br>a. In Soup, ...                    | 1           | 1½       | 1½                        | ...                      | ...                               |
| b. To Dinner. { Do., in lieu of Barley, ...                                        | 1           | 1½       | ...                       | 1½                       | ...                               |
| c. In Rice Pudding, (4) ...                                                        | 1           | 1½       | 1½                        | ...                      | ...                               |
| 12.—Sugar—best Brown—<br>a. To Breakfast and Tea, ...                              | 7           | 2½       | 16                        | ...                      | ...                               |
| b. ,, Dinner. { In Tarts or Puddings, ...                                          | 2           | 2        | 4                         | ...                      | ...                               |
| c. ,, Dinner. { Do. ...                                                            | 1           | 2        | ...                       | 2                        | ...                               |
| 13.—Butter—best Salt—Scotch—<br>a. To Breakfast and Tea, ...                       | 7           | 15½      | 12                        | ...                      | ...                               |
| b. ,, Dinner—in Pie crust, and Fish Sauce, ...                                     | 1           | ½        | ½                         | ...                      | ...                               |
| 14.—Suet, Fat, Lard, &c.—<br>a. In Broth or Soup—(Dripping, Mar-<br>row, &c.), ... | 7           | ½        | 3½                        | ...                      | ...                               |
| b. To Dinner. { ,, Suet Pudding, ...                                               | 1           | 2        | 2                         | ...                      | ...                               |
| c. ,, Pie crust, ...                                                               | 2           | 1¼       | 2½                        | ...                      | ...                               |
| d. ,, Do. ...                                                                      | 1           | 2        | ...                       | 2                        | ...                               |
| 15.—Milk—best sweet—sp. gr. 1030.5—<br>a. To Breakfast and Tea, ...                | 7           | 10       | 70                        | ...                      | ...                               |
| b. ,, Dinner—with Pudding, ...                                                     | 1           | 15       | ...                       | 15                       | ...                               |
| 16.—Cheese—best Gouda—<br>a. To Lunch—occasionally, ...                            | 6           | 2        | ...                       | 12                       | ...                               |
| b. ,, Supper, ...                                                                  | 7           | 2        | 14                        | ...                      | ...                               |
| 17.—Porter—best Scotch—<br>a. To Dinner, ...                                       | 7           | 10       | 70                        | ...                      | ...                               |
| b. ,, Supper, ...                                                                  | 7           | 10       | 70                        | ...                      | ...                               |
| c. ,, Lunch—occasionally, ...                                                      | 6           | 10       | ...                       | 60                       | ...                               |
| 18.—Tea,*—To Breakfast and Tea, ...                                                | 7           | 4¼ dr    | 2oz                       | ...                      | ...                               |

4. *Rice Pudding* consists of 1½ oz. Rice, ½ oz. Sugar, 10 oz. Milk, per person.  
*Currant Dumpling or Pudding* consists of 3 oz. Flour, 1 oz. Currants and Spice,  
1 oz. Sugar, 1½ oz. Suet, per person.

*Jam Dumpling or Pudding* consists of 3 oz. Flour, 1 oz. Jam, 1 oz. Suet, per person.

\* Some attendants have an allowance of Porridge and Milk in addition to Tea diet at morning or evening meals.

When on Night duty attendants or servants have extra allowances of Meat, Eggs, Bread, Beer or Porter, Tea or Coffee, &c.

In addition to Breakfast, Dinner, and Tea, at the same hours as those of the patients (the latter meal corresponding to the Supper of the patients), the attendants and servants have Supper proper between 8 and 10 P.M.

20 V.—DIET TABLES FOR THE LUNATIC WARDS OF POOR-  
HOUSES DRAWN UP BY THE COMMISSIONERS IN  
LUNACY FOR SCOTLAND IN 1862.\* †

I.—MAXIMUM SCALE FOR OUT-DOOR WORKING MALE PAUPERS.

|                                                           | Allowance in<br>oz. Avoirdupois, |                               |                                |                               |
|-----------------------------------------------------------|----------------------------------|-------------------------------|--------------------------------|-------------------------------|
|                                                           | Daily.                           |                               | Weekly.                        |                               |
|                                                           | No. of Days $\frac{1}{3}$ Week.  | No. of oz. $\frac{1}{3}$ Day. | No. of oz. $\frac{1}{3}$ Week. | Total oz. $\frac{1}{3}$ Week. |
| 1.—Meat (1)—cooked (2)—Dinner, ...                        | 5                                | 4 to 6                        | 22                             | ...                           |
| Exclusive of bone—cooked—in Barley Broth, or              | 5                                | 2                             | 10                             | ...                           |
| Pea Soup, ...                                             |                                  |                               |                                | 32                            |
| 2.—Cheese—Lunch (3), ...                                  | 7                                | 2                             | 14                             | ...                           |
| Dinner—with Bread, Milk, and Potatoes,                    | 1                                | 2                             | 2                              | ...                           |
|                                                           |                                  |                               |                                | 16                            |
| 3.—Milk—new or sweet—to Porridge—Breakfast,               | 7                                | 10                            | 70                             | ...                           |
| Do. Supper, ...                                           | 7                                | 10                            | 70                             | ...                           |
| With Cheese, Bread, and Potatoes—Dinner, ...              | 1                                | 8                             | 8                              | ...                           |
|                                                           |                                  |                               |                                | 148                           |
| 4.—Bread—Lunch, ...                                       | 7                                | 3                             | 21                             | ...                           |
| Dinner, ...                                               | 6                                | 6 to 8                        | 44                             | ...                           |
|                                                           |                                  |                               |                                | 65                            |
| 5.—Oatmeal—in Porridge—Breakfast, ...                     | 7                                | 6                             | 42                             | ...                           |
| Supper, ..                                                | 7                                | 6                             | 42                             | ...                           |
| in Meal Pudding—Dinner, ...                               | 1                                | 6                             | 6                              | ...                           |
|                                                           |                                  |                               |                                | 90                            |
| 6.—Barley— in Barley Broth—Dinner, ...                    | 3                                | 2                             | ...                            | 6                             |
| 7.—Peas—whole or split, 2 oz., } in Pea Soup,             | 2                                | 3·50                          | 7·00                           | ...                           |
| Pease Flour, 1½ oz. }                                     |                                  |                               |                                | ...                           |
| whole or split—in Barley Broth, ...                       | 3                                | 0·50                          | 1·50                           | ...                           |
|                                                           |                                  |                               |                                | 8·50                          |
| 8.—Suet—in Meal Pudding—Dinner, ...                       | 1                                | 2·50                          | ...                            | 2·50                          |
| 9.—Potatoes (2)—Dinner, ...                               | 2                                | 8 to 16                       | ...                            | 24                            |
| 10.—Vegetables—(Onions,(2) Carrots, Turnips, &c.)—Dinner— |                                  |                               |                                |                               |
| In Barley Broth, ...                                      | 3                                | 1·50                          | 4·50                           | ...                           |
| „ Pea Soup—including “Seasoning”), ...                    | 2                                | 1·00                          | 2·00                           | ...                           |
| „ Meal Pudding (Onions), ...                              | 1                                | 0·75                          | 0·75                           | ...                           |
| With Meat (as “Greens” or Salad), ...                     | 1                                | 8·00                          | 8·00                           | ...                           |
|                                                           |                                  |                               |                                | 15·25                         |
| 11.—Beer—Lunch, ...                                       | 7                                | 10                            | ...                            | 70                            |

1. “On one day in the week 8 oz. Fish may replace 4 oz. Meat; but Fish shall be served at least once a month.”
2. Occasionally served as Irish Stew; or as Meat and Potato Pudding.
3. 3 oz. Meat may be substituted.

\* Contained in the “Rules and conditions,—approved by one of H. M. Principal Secretaries of State,—on which the Board” (of Lunacy for Scotland) “will grant their Licenses for the reception of Pauper Lunatics into the Lunatic Wards of Poorhouses”: Confirmed by Sir George Grey, 30th September, 1862, and sanctioned by Dr Christison, Professor of Dietetics and Materia Medica in the University of Edinburgh: Published in the 5th Annual Report of the General Board of Commissioners in Lunacy for Scotland: Edinburgh, 1863. Page 219.

† Re-arranged from the originals for the purposes of comparison with the other Diet Tables here given.



V.—DIET TABLES FOR THE LUNATIC WARDS OF POOR- 21  
HOUSES DRAWN UP BY THE COMMISSIONERS IN  
LUNACY FOR SCOTLAND IN 1862.

II.—MINIMUM OR ALTERNATIVE SCALE FOR ALL OTHER CLASSES  
OF MALE \* PAUPERS.

|                                                          | Allowance in<br>oz. Avoirdupois, |                               |                                |                               |
|----------------------------------------------------------|----------------------------------|-------------------------------|--------------------------------|-------------------------------|
|                                                          | Daily.                           |                               | Weekly.                        |                               |
|                                                          | No. of Days $\frac{1}{3}$ Week.  | No. of oz. $\frac{1}{3}$ Day. | No. of oz. $\frac{1}{3}$ Week. | Total oz. $\frac{1}{3}$ Week. |
| 1.—Meat (1) (2) (3)—cooked—Dinner, ... ..                | 5                                | 4 to 6                        | 22                             | ...                           |
| exclusive of bone—in Barley Broth, ... ..                | 4                                | 2'00                          | 8                              | ...                           |
| in Pea Soup, ... ..                                      | 1                                | 2'00                          | 2                              | ...                           |
|                                                          |                                  |                               |                                | 32                            |
| 2.—Cheese—Dinner, ... ..                                 | 1                                | 2'00                          | ...                            | 2                             |
| 3.—Milk— <i>a.</i> new or sweet milk—Dinner, ... ..      | 1                                | 8'00                          | 8                              | ...                           |
| Supper—Tea or Coffee, ... ..                             | 7                                | 1'00                          | 7                              | 15                            |
| <i>b.</i> Butter milk—Breakfast, ... ..                  | 7                                | 15                            |                                | 105                           |
| 4.—Bread—Dinner, ... ..                                  | 2                                | 6                             | 12                             | ...                           |
| Supper, ... ..                                           | 7                                | 8                             | 56                             | ...                           |
|                                                          |                                  |                               |                                | 68                            |
| 5.—Oatmeal—in Porridge—Breakfast, ... ..                 | 7                                | 6                             | ...                            | 42                            |
| 6.—Wheaten Flour—in Suet Dumpling—Dinner, ... ..         | 1                                | 6                             | ...                            | 6                             |
| 7.—Barley—in Barley Broth—Dinner, ... ..                 | 4                                | 2                             | ...                            | 8                             |
| 8.—Rice—in lieu of Potatoes—Dinner, ... ..               | 1                                | 4                             | ...                            | 4                             |
| 9.—Pease—whole or split, 2 oz., } in Pea Soup, } Dinner, | 1                                | 3'50                          | 3'50                           | ...                           |
| Pease Flour, 1'50 oz. } whole or split—in Barley Broth—  | 4                                | 0'50                          | 2'00                           | ...                           |
|                                                          |                                  |                               |                                | 5'50                          |
| 10.—Sugar—to Tea or Coffee—Supper, ... ..                | 7                                | 0'50                          | ...                            | 3'50                          |
| 11.—Suet—in Suet Dumpling—Dinner, ... ..                 | 1                                | 2'50                          | ...                            | 2'50                          |
|                                                          | 3                                | 16                            | 48                             | ...                           |
| 12.—Potatoes (1) (2)—in lieu of Bread—Dinner, ... ..     | 1                                | 16                            | 16                             | ...                           |
|                                                          | 1                                | 8                             | 8                              | ...                           |
|                                                          |                                  |                               |                                | 72                            |
| 13.—Vegetables—(Onions, (1) Carrots, Turnips, &c.)—      |                                  |                               |                                |                               |
| In Barley Broth, ... ..                                  | 4                                | 1'50                          | 6'00                           | ...                           |
| „ Pea Soup—(including “Seasoning”), ... ..               | 1                                | 1'00                          | 1'00                           | ...                           |
| With Meat, ... ..                                        | 1                                | 8'00                          | 8'00                           | ...                           |
|                                                          |                                  |                               |                                | 15'00                         |
| 14.—Tea (4)—Supper, ... ..                               | 7                                | 0'12                          | ...                            | 0'84                          |

1. Occasionally served as Irish Stew.

2. Do. Meat and Potato Pudding.

3. “On one day in the week 8 oz. Fish may replace 4 oz. Meat; but Fish shall be served at least once a month.”

4. Coffee—0'25 oz. may be substituted per day—*i.e.*, 1'75 oz. per week.

\* There are the following differences between the *Female* and Male dietaries:—Females have about 16 per cent. less Oatmeal than Males to Breakfast and Supper daily; 16 per cent. less Meal Pudding or Suet Dumpling one day per week; and 25 per cent. less Bread to Supper daily, if Tea and Coffee diet is preferred to Porridge. They have the option of Tea or Coffee diet to Breakfast as well as Supper; and with Tea or Coffee diet morning and evening they have 3'50 oz. Butter per week (which is equivalent to an addition of 3'33 oz. of carboniferous nutriment per week, or 0'48 oz. per day).

22 VI.—SHOWING THE NUTRITIVE VALUE OF THE DIET-  
ARIES\* FOR THE LUNATIC WARDS OF POOR-HOUSES.

I.—MAXIMUM WEEKLY SCALE FOR OUT-DOOR WORKING  
MALE PAUPERS.

|                                                     | Allowance<br>of<br>Food in oz.<br>Avoirdupois | Per Centage of Solid Nutriment in<br>oz. Avoirdupois. |                     |                           |
|-----------------------------------------------------|-----------------------------------------------|-------------------------------------------------------|---------------------|---------------------------|
|                                                     |                                               | Nitro-<br>genous.                                     | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Meat, ... ..                                     | 32·00                                         | 4·80                                                  | 7·68                | 12·48                     |
| 2. Cheese, ... ..                                   | 16·00                                         | 7·68                                                  | 4·80                | 12·48                     |
| 3. Milk—new or sweet, ...<br>Butter milk, ...       | 148·00                                        | 5·92                                                  | 11·84               | 17·76                     |
| 4. Bread, ... ..                                    | 65·00                                         | 5·20                                                  | 33·80               | 39·00                     |
| 5. Oatmeal, ... ..                                  | 90·00                                         | 15·30                                                 | 63·90               | 79·20                     |
| 6. Wheaten Flour, ... ..                            | ...                                           | ...                                                   | ...                 | ...                       |
| 7. Barley, ... ..                                   | 6·00                                          | 0·84                                                  | 4·32                | 5·16                      |
| 8. Rice, ... ..                                     | ...                                           | ...                                                   | ...                 | ...                       |
| 9. Pease, ... ..                                    | 8·50                                          | 2·04                                                  | 5·02                | 7·06                      |
| 10. Sugar, ... ..                                   | ...                                           | ...                                                   | ...                 | ...                       |
| 11. Suet, ... ..                                    | 2·50                                          | ...                                                   | 2·50                | 2·50                      |
| 12. Potatoes, ... ..                                | 24·00                                         | 0·48                                                  | 6·00                | 6·48                      |
| 13. Vegetables — (Onion, Carrot,<br>Turnip), ... .. | 15·25                                         | 0·46                                                  | 2·29                | 2·75                      |
| Mean <i>daily</i> allowance per person, ...         | ...                                           | 6·10                                                  | 20·31               | 26·41                     |

\* As given in the foregoing Table V :—the calculations being based on our Standard Table of Nutriment.

II.—MINIMUM, OR ALTERNATIVE WEEKLY SCALE FOR ALL OTHER  
CLASSES OF MALE PAUPERS.

|                                                | Allowance<br>of<br>Food in oz.<br>Avoirdupois | Per Centage of Solid Nutriment in<br>oz. Avoirdupois. |                     |                           |
|------------------------------------------------|-----------------------------------------------|-------------------------------------------------------|---------------------|---------------------------|
|                                                |                                               | Nitro-<br>genous.                                     | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Meat, ... ..                                | 32·00                                         | 4·80                                                  | 7·68                | 12·48                     |
| 2. Cheese, ... ..                              | 2·00                                          | 0·96                                                  | 0·60                | 1·56                      |
| 3. Milk—new or sweet, ...<br>Butter milk,* ... | 15·00<br>105·00                               | 0·60<br>6·30                                          | 1·20<br>2·10        | 1·80<br>8·40              |
| 4. Bread, ... ..                               | 68·00                                         | 5·44                                                  | 35·36               | 40·80                     |
| 5. Oatmeal, ... ..                             | 42·00                                         | 7·14                                                  | 29·82               | 36·96                     |
| 6. Wheaten Flour, ... ..                       | 6·00                                          | 0·84                                                  | 4·26                | 5·10                      |
| 7. Barley, ... ..                              | 8·00                                          | 1·12                                                  | 5·76                | 6·88                      |
| 8. Rice, ... ..                                | 4·00                                          | 0·24                                                  | 3·52                | 3·76                      |
| 9. Pease, ... ..                               | 5·50                                          | 1·32                                                  | 3·25                | 4·57                      |
| 10. Sugar, ... ..                              | 3·50                                          | ...                                                   | 3·43                | 3·43                      |
| 11. Suet, ... ..                               | 2·50                                          | ...                                                   | 2·50                | 2·50                      |
| 12. Potatoes, ... ..                           | 72·00                                         | 1·44                                                  | 18·00               | 19·44                     |
| 13. Vegetables, ... ..                         | 15·00                                         | 0·45                                                  | 2·25                | 2·70                      |
| Mean <i>daily</i> allowance per person, ...    | ...                                           | 4·38                                                  | 17·10               | 21·48                     |

\* Estimated by Professor Christison's "Standard Table of Nutriment," 1849.



VII.—SHOWING THE NUTRITIVE VALUE OF THE DIET- 23  
ARIES (1) OF THE ROYAL INFIRMARY OF EDINBURGH: 1863.

|                                             | Daily Allowance per Patient in<br>oz. Avoirdupois. |                                  |                              |
|---------------------------------------------|----------------------------------------------------|----------------------------------|------------------------------|
|                                             | Solid<br>* Animal<br>Nutriment.                    | Solid<br>Vegetable<br>Nutriment. | Total<br>Solid<br>Nutriment. |
| 1. Low Diet, ... ..                         | 0·40                                               | 6·95                             | 7·35                         |
| 2. Rice Diet, † ... ..                      | 1·45                                               | 6·40                             | 7·85                         |
| 3. Steak Diet, ‡ ... ..                     | 1·41                                               | 13·77                            | 15·18                        |
| 4. Do. with Bread, ☞ ... ..                 | ...                                                | ...                              | 13·87                        |
| 5. ○ Common Diet, ... ..                    | 0·33                                               | 13·77                            | 14·10                        |
| 6. Do. with Bread, ☞ ... ..                 | ...                                                | ...                              | 13·56                        |
| 7. ○ Full Diet, §    ... ..                 | 3·85                                               | 15·17                            | 19·02                        |
| 8. Do. with Bread, ☞ ... ..                 | ...                                                | ...                              | 17·29                        |
| 9. Extra Diet, ¶ ... ..                     | 4·85                                               | 18·58                            | 23·43                        |
| Mean of the foregoing classes of Dietaries, | 2·05                                               | 12·44                            | 14·49                        |

\* All calculations are made on *uncooked* Food.

† Includes Beef Tea made from 8 oz. Meat.

‡ Do. Beefsteak, 4 oz.

§ Do. Boiled Beef after making Beef Tea. 6 oz.

¶ Do. do. do. 8 oz.

☞ Patients have their option between Porridge and Bread.

○ Common and full Diets are those principally used.

|| *Vide* immediately following Table VIII.

1. The said Dietaries were arranged by a Committee of the Medical Managers and Medical Officers of the Institution “so as to *combine fitness, simplicity and economy.*”

VIII.—SHOWING THE ITEMS, AND NUTRITIVE VALUE, OF  
THE *FULL DIET* OF THE ROYAL INFIRMARY OF EDIN-  
BURGH—ACCORDING TO PROFESSOR CHRISTISON.

[BEING ONE OF THE TABLES USED IN HIS *LECTURES ON DIETETICS*  
IN THE UNIVERSITY OF EDINBURGH: 1849].

|                                                         | Daily Allowance per Patient in oz. Avoirdupois. |                   |                     |                              |
|---------------------------------------------------------|-------------------------------------------------|-------------------|---------------------|------------------------------|
|                                                         | Rough<br>Weight of<br>Food.                     | Nitro-<br>genous. | Carboni-<br>ferous. | Total<br>Solid<br>Nutriment. |
| 1.—Breakfast—                                           |                                                 |                   |                     |                              |
| Oatmeal—(for Porridge), ...                             | 4·50                                            | 0·73              | 2·96                | 3·69                         |
| Butter Milk, ...                                        | 20·00                                           | 1·20              | 0·20                | 1·40                         |
| 2.—Dinner—                                              |                                                 |                   |                     |                              |
| Boiled Meat, ... ..                                     | 6·00                                            | 1·10              | 0·90                | 2·00                         |
| Potatoes,... ..                                         | 16·00                                           | 0·40              | 4·32                | 4·72                         |
| Bread, ... ..                                           | 3·00                                            | 0·50              | 1·97                | 2·47                         |
| Broth, 20 oz. {                                         | Vegetables,                                     | 0·72              | 0·01                | 0·07                         |
|                                                         | Barley.                                         | 1·00              | 0·15                | 0·82                         |
|                                                         | Meat,                                           | 2·00              | 0·40                | 0·70                         |
| 3.—Supper—                                              |                                                 |                   |                     |                              |
| Potatoes, ... ..                                        | 16·00                                           | 0·40              | 4·32                | 4·72                         |
| New Milk, ... ..                                        | 10·00                                           | 0·45              | 0·80                | 1·25                         |
| Total Daily allowance of dry or<br>solid Nutriment, ... | ...                                             | 5·34              | 16·50               | 21·84                        |

|                                                                           | Weekly Allowance of Food in oz. Avoirdupois. |       |         |           |       |         |         | Proportion of Dry or Solid Nutriment. |                     |                           |
|---------------------------------------------------------------------------|----------------------------------------------|-------|---------|-----------|-------|---------|---------|---------------------------------------|---------------------|---------------------------|
|                                                                           |                                              |       |         |           |       |         |         | Daily Allowance in oz. Avoir.         |                     |                           |
|                                                                           | Bread or Biscuit.                            | Meat. | Potato. | Meal, &c. | Milk. | Cheese. | Butter. | Nitro-<br>genous.                     | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Dietaries of Public General Hospitals, ...                             | 93                                           | 52    | 56      | 14        | 7     | ...     | 3.2     | 3.5                                   | 12.1                | 15.6                      |
| 2. Physiological requirements of the system in health, ...                | 140                                          | 84    | ...     | ...       | ...   | ...     | 3.5     | 4.0                                   | 12.7                | 16.7                      |
| 3. Dietaries of Public Lunatic Asylums, ...                               | 114                                          | 23    | 68      | 13        | 14    | 7       | 1.3     | 4.0                                   | 13.2                | 17.2                      |
| 4. Do. the Navy, ...                                                      | 112                                          | 112   | 56      | ...       | ...   | ...     | ...     | 5.0                                   | 17.7                | 22.7                      |
| 5. Do. the Home Army, ...                                                 | 168                                          | 84    | 112     | ...       | ...   | ...     | ...     | 4.8                                   | 19.4                | 24.2                      |
| 6. Do. Berwickshire labourer, ...                                         | 122                                          | ...   | ...     | 224       | 224   | ...     | ...     | 7.0                                   | 37.1                | 44.1                      |
| 7. Do. Yorkshire do., ...                                                 | 280                                          | 126   | 28      | ...       | 210   | ...     | 49      | 8.8                                   | 42.2                | 51.0                      |
| Mean of foregoing 7 classes of Dietaries, ...                             | 147                                          | 68    | 45      | 35        | 65    | 1       | 8       | 5.30                                  | 22.05               | 27.35                     |
| DIETARIES OF MURRAY'S ROYAL INSTITUTION<br>CONTRASTED WITH THE FOREGOING. |                                              |       |         |           |       |         |         |                                       |                     |                           |
| 1. Paupers—male—working, ...                                              | 104                                          | 35    | 68      | 51        | 133   | 6       | 2       | 5.17                                  | 22.55               | 27.72                     |
| 2. Intermediate classes, ...                                              | 126                                          | 40    | 112     | 2         | 39    | 1       | 7       | 3.94                                  | 21.77               | 25.71                     |
| 3. Higher do., ... } Patients.                                            | 126                                          | 48    | 98      | 2         | 50    | 2       | 9       | 4.57                                  | 23.27               | 27.84                     |
| 4. Average of all classes of Patients, ...                                | 98                                           | 27    | 104     | 36        | 67    | 2       | 4       | 4.30                                  | 20.82               | 25.12                     |
| 5. Attendants and Servants, ...                                           | 140                                          | 60    | 140     | ...       | 70    | 14      | 10      | 5.52                                  | 25.43               | 30.95                     |
| Mean of foregoing 5 classes of Dietaries, ...                             | 119                                          | 42    | 104     | 18        | 72    | 5       | 6       | 4.70                                  | 22.77               | 27.47                     |

\* Officer of Health and Food-Analyst to the City of London : contained in a Paper on the "Economy of Food," read before the Society of Arts in 1857. ("Medical Times and Gazette," March, 28, 1857.)



X.—SHOWING THE NUTRITIVE VALUE OF PUBLIC DIET- 25  
ARIES—ACCORDING TO DR LANKESTER. \* †

|                                                              | Daily Allowance per Person of Solid Nutriment in oz. Avoirdupois. |                     |                           |
|--------------------------------------------------------------|-------------------------------------------------------------------|---------------------|---------------------------|
|                                                              | Nitro-<br>genous.                                                 | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Soldiers—British—general army on active service, ...      | 5·00                                                              | 10·00               | 15·00                     |
| — — — Royal Engineers—home service, ...                      | 4·90                                                              | 13·00               | 17·90                     |
| — — — Chelsea Pensioners, ...                                | 4·00                                                              | 9·75                | 13·75                     |
| — — — French—on active service, ...                          | 4·75                                                              | 12·00               | 16·75                     |
| 2. Sailors—British—on active service—Fresh Meat Dietary, ... | 5·00                                                              | 10·00               | 15·00                     |
| — — — Salt Meat Dietary, ...                                 | 6·00                                                              | 12·00               | 18·00                     |
| — — — Greenwich Pensioners, ...                              | 3·50                                                              | 10·00               | 13·50                     |
| 3. Paupers—average of all British Workhouses, ...            | 3·15                                                              | 8·25                | 11·40                     |
| 4. Old men in Gillespie's Hospital, Edinburgh, ...           | 3·00                                                              | 10·00               | 13·00                     |
| 5. Boys—Christ's Hospital, ...                               | 2·50                                                              | 7·00                | 9·50                      |
| — — — Royal Normal School, Greenwich, ...                    | 2·50                                                              | 7·50                | 10·00                     |
| Mean of the foregoing 11 classes of Dietaries,               | 4·02                                                              | 9·96                | 13·98                     |
| DIETARIES OF MURRAY'S ROYAL INSTITUTION CONTRASTED.          |                                                                   |                     |                           |
| 1. Paupers—male working, ...                                 | 5·17                                                              | 22·55               | 27·72                     |
| 2. Intermediate classes, ...                                 | 3·94                                                              | 21·77               | 25·71                     |
| 3. Higher do., ...                                           | 4·57                                                              | 23·27               | 27·84                     |
| 4. Average of all classes, ...                               | 4·30                                                              | 20·82               | 25·12                     |
| 5. Attendants and servants, ...                              | 5·52                                                              | 25·43               | 30·95                     |
| Mean of foregoing 5 classes of Dietaries,                    | 4·70                                                              | 22·77               | 27·47                     |

\* "Guide to the Food Collection in the South Kensington Museum," 2nd edition, London, 1860, page 55: which "Guide," as well as his lectures "On Food," delivered at the South Kensington Museum, London, 1862, we would commend to the perusal of all interested in Dietetics. Our acknowledgments are due to the author for his friendly communications on the subject of these inquiries,

† *Vide* foot note appended to Table XI.

XI.—SHOWING THE PROPORTION OF NITROGENOUS TO  
CARBONIFEROUS ELEMENTS OR CONSTITUENTS OF FOOD IN  
VARIOUS PUBLIC OR OTHER DIETARIES.

|                                                                                                                      | Nitrogenous. | Carboniferous. |
|----------------------------------------------------------------------------------------------------------------------|--------------|----------------|
| 1. Physiological requirements of healthy system—average of both sexes of adults according to Liebig and Gregory, ... | 1 to 5·00    |                |
| Do. do. Letheby, ...                                                                                                 | 1 ,, 3·17    |                |
| Do. adult working males—mean of 2 estimates, ...                                                                     | 1 ,, 4·21    |                |
| 2. Public General Hospitals or Infirmarys (Letheby), ...                                                             | 1 ,, 3·45    |                |
| Royal Infirmary of Edinburgh Full Diet (Christison) ...                                                              | 1 ,, 3·08    |                |
| 3. Paupers—general average of British (Lankester), ...                                                               | 1 ,, 2·61    |                |
| 4. Berwickshire labourers (Letheby),... ..                                                                           | 1 ,, 5·30    |                |
| 5. Yorkshire do. (do.), ... ..                                                                                       | 1 ,, 4·79    |                |
| 6. Army—British—home Service (do.), ... ..                                                                           | 1 ,, 4·04    |                |
| — — — active Service (Lankester), ...                                                                                | 1 ,, 2·00    |                |
| — — — Royal Engineers—home Service (do.), ...                                                                        | 1 ,, 2·65    |                |
| — — — Chelsea Pensioners (do.), ...                                                                                  | 1 ,, 2·43    |                |
| — — — French—active service (do.), ...                                                                               | 1 ,, 2·53    |                |

|                                                              |             |                                                |  |  |          |  | Nitrogenous. | Carboniferous. |
|--------------------------------------------------------------|-------------|------------------------------------------------|--|--|----------|--|--------------|----------------|
| 7. Navy—British—(Letheby), ...                               |             |                                                |  |  |          |  | 1 to 3.54    |                |
| — —(active service—fresh or salt meat diet)—(Lankester),*    |             |                                                |  |  |          |  | 1 „ 2.00     |                |
| Greenwich Pensioners ... (do.),                              |             |                                                |  |  |          |  | 1 „ 2.85     |                |
| 8. Public Lunatic Asylums (Letheby), ...                     |             |                                                |  |  |          |  | 1 „ 3.30     |                |
| 9. Lunatic Wards of Poorhouses in Scotland—                  |             |                                                |  |  |          |  |              |                |
| Minimum according to clause 11 of the “Regulations”—Males,   |             |                                                |  |  |          |  | 1 „ 3.00     |                |
| Females,                                                     |             |                                                |  |  |          |  | 1 „ 2.60     |                |
| Mean of both Sexes, ...                                      |             |                                                |  |  |          |  | 1 „ 2.80     |                |
| Maximum—(deducted from Diet Tables)—for out-door work-       |             |                                                |  |  |          |  |              |                |
| ing males, ...                                               |             |                                                |  |  |          |  | 1 „ 3.32     |                |
| For all other classes of males,                              |             |                                                |  |  |          |  | 1 „ 3.90     |                |
| Mean of foregoing Maxima and Minima,                         |             |                                                |  |  |          |  | 1 „ 3.56     |                |
| Mean of Dietaries for Lunatic Wards of Scotch Poorhouses,... |             |                                                |  |  |          |  | 1 „ 3.19     |                |
| 10. MURRAY’S ROYAL INSTITUTION—                              |             |                                                |  |  |          |  |              |                |
| Staff.                                                       | { Patients. | Paupers—Males—working, ...                     |  |  |          |  | 1 „ 4.36     |                |
|                                                              |             | General average—Males, } Estimate of Dr Murray |  |  |          |  | 1 „ 3.23     |                |
|                                                              |             | Females, } Thomson, ...                        |  |  |          |  | 1 „ 3.43     |                |
|                                                              |             | Intermediate classes, ...                      |  |  |          |  | 1 „ 5.52     |                |
|                                                              |             | Higher do., ...                                |  |  |          |  | 1 „ 5.09     |                |
|                                                              |             | Average of all classes, ...                    |  |  |          |  | 1 „ 4.84     |                |
|                                                              |             | Attendants and Servants, ...                   |  |  |          |  | 1 „ 4.60     |                |
|                                                              |             | Officers, ...                                  |  |  |          |  | 1 „ 4.60     |                |
|                                                              |             | Physician, ...                                 |  |  |          |  | 1 „ 4.48     |                |
|                                                              |             | Mean of Patients’ Dietaries, ...               |  |  |          |  | 1 „ 4.41     |                |
| Do. Dietaries for Staff, ...                                 |             |                                                |  |  | 1 „ 4.56 |  |              |                |
| Do. both series or classes of Dietaries, ...                 |             |                                                |  |  | 1 „ 4.48 |  |              |                |

\* The discrepancy between the estimates given by Dr Lankester (*Vide* Table X.) and those given by Dr Letheby (*Vide* Table IX.) and other authorities is so marked—especially in relation to the proportion between the carboniferous and nitrogenous nutriment in Public Dietaries, that we are forced to the conclusion that they have been calculated on different bases or data. In any view,—under any circumstances—Dr Lankester appears to give,—as contrasted with other authorities—an excessive proportion of nitrogenous in relation to carboniferous materials: in some cases amounting to about *double* the estimate formed by others.

XII.—SHOWING THE AVERAGE WEEKLY CONSUMPT PER PERSON OF ALL CLASSES OF PATIENTS.\*

|                                            | Actual Consumpt of Food in oz. Avoirdupois | Per Centage of Solid Nutriment in oz. Avoirdupois. |                    |                        |
|--------------------------------------------|--------------------------------------------|----------------------------------------------------|--------------------|------------------------|
|                                            |                                            | Nitro- genous.                                     | Carboni- ferous. † | Total Solid Nutriment. |
| 1. Meat <i>a</i> —Beef, Mutton, Pork,      | 27 (1) }                                   | 4.35                                               | 6.96               | 11.31                  |
| <i>b</i> .—Poultry, Rabbits, and Game, ... | 2 (2) }                                    |                                                    |                    |                        |
| <i>c</i> .—White Fish, ...                 | 17                                         | 2.55                                               | 1.19               | 3.74                   |
| 2. Eggs, ...                               | 5                                          | 0.65                                               | 0.60               | 1.25                   |
| 3. Cheese, ...                             | 2                                          | 0.96                                               | 0.60               | 1.56                   |

\* Including the workers and the idle; the strong and the infirm; the sedentary and the active—of both sexes.

1. After deducting about one-third or 33 per cent, for Bone, Suet, &c.

2. Do. one-fifth or 20 per cent. for Bone, &c.

† Including *Salts* or *Mineral* constituents of Food.



|                                                     | Actual<br>Consumpt of<br>Food in oz.<br>Avoirdupois | Per Centage of Solid Nutriment in<br>oz. Avoirdupois. |                     |                          |
|-----------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------|---------------------|--------------------------|
|                                                     |                                                     | Nitro-<br>genous.                                     | Carboni-<br>ferous. | Total Solid<br>Nutriment |
| 4. Milk—sweet—sp. gr. 1030.5—<br>average, 1032, ... | 67                                                  | 2.68                                                  | 5.36                | 8.04                     |
| 5. Bread, ...                                       | 98                                                  | 7.84                                                  | 50.96               | 58.80                    |
| 6. Oatmeal, ...                                     | 36                                                  | 6.12                                                  | 25.56               | 31.68                    |
| 7. Wheaten Flour, ...                               | 4                                                   | 0.56                                                  | 2.84                | 3.40                     |
| 8. Barley, ...                                      | 4                                                   | 0.56                                                  | 2.88                | 3.44                     |
| 9. Rice, Sago, &c., ...                             | 2                                                   | 0.10                                                  | 1.72                | 1.82                     |
| 10. Pease—split, ...                                | 3                                                   | 0.72                                                  | 1.77                | 2.49                     |
| 11. Sugar, ...                                      | 7                                                   | ...                                                   | 6.86                | 6.86                     |
| 12. Butter, ...                                     | 4                                                   | ...                                                   | 3.80                | 3.80                     |
| 13. Fat, Suet, and Lard, ...                        | 4                                                   | ...                                                   | 4.00                | 4.00                     |
| 14. Potatoes, ...                                   | 104                                                 | 2.08                                                  | 26.00               | 28.08                    |
| 15. Miscellaneous Vegetables, ...                   | 27 }                                                | 0.93                                                  | 4.65                | 5.58                     |
| 16. Do. Fruit, .                                    | 4 }                                                 |                                                       |                     |                          |
| Mean <i>daily</i> consumpt, ...                     | ...                                                 | 4.30                                                  | 20.82               | 25.12                    |

XIII.—SHOWING THE AVERAGE WEEKLY CONSUMPT PER  
PERSON OF ALL CLASSES OF PATIENTS ABOVE THE RANK  
OF PAUPERS.

|                                                                                                    | Intermediate Classes.*                              |                                                         |                     |                                   | Higher Classes.*                                    |                                                         |                     |                                   |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|---------------------|-----------------------------------|-----------------------------------------------------|---------------------------------------------------------|---------------------|-----------------------------------|
|                                                                                                    | Actual<br>Con-<br>sumpt of<br>Food in<br>oz. Avoir. | Per Centage of Solid Nutri-<br>ment in oz. Avoirdupois. |                     |                                   | Actual<br>Con-<br>sumpt of<br>Food in<br>oz. Avoir. | Per Centage of Solid Nutri-<br>ment in oz. Avoirdupois. |                     |                                   |
|                                                                                                    |                                                     | Nitro-<br>genous.                                       | Carboni-<br>ferous. | Total<br>Solid<br>Nutri-<br>ment. |                                                     | Nitro-<br>genous.                                       | Carboni-<br>ferous. | Total<br>Solid<br>Nutri-<br>ment. |
| 1. Meat— <i>a.</i> —Beef, Mut-<br>ton, Pork, ...                                                   | 40 (1)                                              | 6.00                                                    | 9.60                | 15.60                             | 48 (1)                                              | 7.20                                                    | 11.52               | 18.72                             |
| <i>b.</i> —Poultry, Rabbits,<br>and Game, ...                                                      | 8 (2)                                               | 1.20                                                    | 1.92                | 3.12                              | 8 (2)                                               | 1.20                                                    | 1.92                | 3.12                              |
| <i>c.</i> —White Fish, ...                                                                         | 20                                                  | 3.00                                                    | 1.40                | 4.40                              | 28                                                  | 4.20                                                    | 1.96                | 6.16                              |
| 2. Eggs, (3) ...                                                                                   | ...                                                 | ...                                                     | ...                 | ...                               | 8                                                   | 1.04                                                    | 0.96                | 2.00                              |
| 3. Cheese, ...                                                                                     | 1                                                   | 0.48                                                    | 0.30                | 0.78                              | 2                                                   | 0.96                                                    | 0.60                | 1.56                              |
| 4. Milk, ...                                                                                       | 39                                                  | 1.56                                                    | 3.12                | 4.68                              | 50                                                  | 2.00                                                    | 4.00                | 6.00                              |
| 5. Bread, ...                                                                                      | 126                                                 | 10.08                                                   | 65.52               | 75.60                             | 126                                                 | 10.08                                                   | 65.52               | 75.60                             |
| 6. Oatmeal—(in “cakes,”)                                                                           | 2                                                   | 0.34                                                    | 1.42                | 1.76                              | 2                                                   | 0.34                                                    | 1.42                | 1.76                              |
| 7. Wheaten Flour,...                                                                               | 2                                                   | 0.28                                                    | 1.42                | 1.70                              | 3                                                   | 0.42                                                    | 2.13                | 2.55                              |
| 8. Barley,...                                                                                      | 5                                                   | 0.70                                                    | 3.60                | 4.30                              | 3                                                   | 0.42                                                    | 2.16                | 2.58                              |
| 9. Rice, Sago, &c., ...                                                                            | 3                                                   | 0.15                                                    | 2.55                | 2.70                              | 4                                                   | 0.20                                                    | 3.40                | 3.60                              |
| 10. Pease—split, ...                                                                               | 2                                                   | 0.48                                                    | 1.18                | 1.66                              | 2                                                   | 0.48                                                    | 1.18                | 1.66                              |
| 11. Sugar, ...                                                                                     | 17                                                  | ...                                                     | 16.66               | 16.66                             | 20                                                  | ...                                                     | 19.60               | 19.60                             |
| 12. Butter,...                                                                                     | 7                                                   | ...                                                     | 6.65                | 6.65                              | 9                                                   | ...                                                     | 8.55                | 8.55                              |
| 13. Fat, Suet, and Lard, ...                                                                       | 4                                                   | ...                                                     | 4.00                | 4.00                              | 6                                                   | ...                                                     | 6.00                | 6.00                              |
| 14. Potatoes, ...                                                                                  | 112                                                 | 2.24                                                    | 28.00               | 30.24                             | 98                                                  | 1.96                                                    | 24.50               | 26.46                             |
| 15. Miscellaneous Veget-<br>ables, ...                                                             | 30 }                                                | 1.02                                                    | 5.10                | 6.12                              | 42 }                                                | 1.50                                                    | 7.50                | 9.00                              |
| 16. Miscellaneous Fruits, ...                                                                      | 4 }                                                 |                                                         |                     |                                   | 8 }                                                 |                                                         |                     |                                   |
| Mean <i>daily</i> consumpt, ...                                                                    | ...                                                 | 3.94                                                    | 21.77               | 25.71                             | ...                                                 | 4.57                                                    | 23.27               | 27.84                             |
| Abstract showing the rela-<br>tive Proportions of Animal<br>and Vegetable Food and Nutri-<br>ment— |                                                     |                                                         |                     |                                   |                                                     |                                                         |                     |                                   |
| I.—ANIMAL.                                                                                         |                                                     |                                                         |                     |                                   |                                                     |                                                         |                     |                                   |
| <i>a.</i> Per Week, ...                                                                            | 119.00                                              | 12.24                                                   | 26.99               | 39.23                             | 159.00                                              | 16.60                                                   | 35.51               | 52.11                             |
| <i>b.</i> „ Day, ...                                                                               | 17.00                                               | 1.75                                                    | 3.85                | 5.60                              | 22.71                                               | 2.37                                                    | 5.07                | 7.44                              |
| II.—VEGETABLE.                                                                                     |                                                     |                                                         |                     |                                   |                                                     |                                                         |                     |                                   |
| <i>a.</i> Per Week, ...                                                                            | 303.00                                              | 15.29                                                   | 125.45              | 140.74                            | 308.00                                              | 15.40                                                   | 127.41              | 142.81                            |
| <i>b.</i> „ Day, ...                                                                               | 43.23                                               | 2.19                                                    | 17.92               | 20.11                             | 44.00                                               | 2.20                                                    | 18.20               | 20.40                             |

\* Mean of both sexes: including the idle and infirm as well as the industrious and robust.

1. After deducting about one-third or 33 per cent. for Bone, Suet, &c.

2. Do one-fifth or 20 per cent. for Bone, &c.

3. When on sick list or Extra diet—in form of Pudding or otherwise.

28 XIV.—SHOWING THE AVERAGE DAILY CONSUMPT OF  
EACH PAUPER PATIENT : \*

ESTIMATE BY DR MURRAY THOMSON, F.R.S. EDINR.

|                                        | Per Centage of Solid Nutriment in<br>oz. Avoirdupois. |                     |                           |
|----------------------------------------|-------------------------------------------------------|---------------------|---------------------------|
|                                        | Nitro-<br>genous.                                     | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| I.—MALES.                              |                                                       |                     |                           |
| 1. Breakfast, 8 A.M., ... ..           | 1·50                                                  | 3·75                | 5·25                      |
| 2. Dinner, 1 P.M., ... ..              | 2·50                                                  | 8·50                | 11·00                     |
| 3. Supper, 6 ,, ... ..                 | 1·25                                                  | 4·75                | 6·00                      |
| Total per day, ... ..                  | 5·25                                                  | 17·00               | 22·25                     |
| II.—FEMALES.                           |                                                       |                     |                           |
| 1. Breakfast, 8 A.M., ... ..           | 1·00                                                  | 3·00                | 4·00                      |
| 2. Dinner, 1 P.M., ... ..              | 2·00                                                  | 6·75                | 8·75                      |
| 3. Supper, 6 ,, ... ..                 | 1·00                                                  | 4·00                | 5·00                      |
| Total per day, ... ..                  | 4·00                                                  | 13·75               | 17·75                     |
| Mean of consumpt by Males and Females, | 4·63                                                  | 15·37               | 20·00                     |

\* Including the idle and feeble, as well as the able-bodied and actively employed. In round numbers there are 100 Paupers, 50 of either sex: of these 30 of either sex—that is about 60 per cent. are able-bodied and actively employed: the remaining 40 per cent. comprise the idle, the sedentary, the feeble, and the sick.

XV.—SHOWING THE AVERAGE WEEKLY CONSUMPT  
PER PER-ON BY OFFICERS. \*!

|                                              | Actual<br>Consumpt of<br>Food in oz<br>Avoirdupois | Per Centage of Solid Nutriment in<br>oz. Avoirdupois. |                     |                           |
|----------------------------------------------|----------------------------------------------------|-------------------------------------------------------|---------------------|---------------------------|
|                                              |                                                    | Nitro-<br>genous.                                     | Carboni-<br>ferous. | Total Solid<br>Nutriment. |
| 1. Meat— <i>a.</i> —Butcher Meat, ...        | 48                                                 | 7·20                                                  | 11·52               | 18·72                     |
| <i>b.</i> —Poultry, Rabbits,<br>and Game,... | 6                                                  | 0·90                                                  | 1·04                | 1·94                      |
| <i>c.</i> —White Fish, ...                   | 6                                                  | 0·90                                                  | 0·42                | 1·32                      |
| 2. Eggs—(partly in Puddings, &c.),           | 20                                                 | 2·60                                                  | 2·40                | 5·00                      |
| 3. Cheese, (1) ...                           | ...                                                | ...                                                   | ...                 | ...                       |
| 4. Milk—sweet—sp. gr. 1030-5,...             | 68                                                 | 2·72                                                  | 5·44                | 8·16                      |
| 5. Bread, ... ..                             | 47                                                 | 3·76                                                  | 24·44               | 28·20                     |
| 6. Oatmeal, ... ..                           | 5                                                  | 0·85                                                  | 3·55                | 4·40                      |
| 7. Wheaten Flour, ... ..                     | 15                                                 | 2·10                                                  | 10·65               | 12·75                     |
| 8. Barley, ... ..                            | 2                                                  | 0·28                                                  | 1·44                | 1·72                      |
| 9. Rice, Sago, &c., ... ..                   | 5                                                  | 0·25                                                  | 4·25                | 4·50                      |
| 10. Pease—split, ... ..                      | 1                                                  | 0·24                                                  | 0·59                | 0·83                      |
| 11. Sugar, ... ..                            | 18                                                 | ...                                                   | 17·64               | 17·64                     |
| 12. Butter, ... ..                           | 7                                                  | ...                                                   | 6·65                | 6·65                      |
| 13. Fat, Suet, and Lard, ...                 | 4                                                  | ...                                                   | 4·00                | 4·00                      |
| 14. Potatoes, ... ..                         | 37                                                 | 0·74                                                  | 9·25                | 9·99                      |
| 15. Miscellaneous Vegetables,                | 21                                                 | 0·63                                                  | 3·15                | 3·78                      |
| 16. Do. Fruits, ...                          | 8                                                  | 0·24                                                  | 1·20                | 1·44                      |
| Mean daily consumpt, ...                     | ...                                                | 3·34                                                  | 15·38               | 18·72                     |

\* Resident Medical Assistant, Matron, and Housekeeper.  
1. Optional; but in point of fact seldom or never used.



## CHAPLAIN'S REPORT.

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IN respectfully submitting to the Directors a brief account of the work of his department, the Chaplain has to report that the usual religious services have been uninterruptedly conducted since the period when he entered upon his office. These services, as the Directors are aware, consist of a Sabbath morning service similar to those in ordinary Christian congregations, and a service of the nature of family worship twice every week, on the mornings of Tuesday and Friday. On all these occasions, the attendance has been well maintained, the Chapel on Sabbath being ordinarily quite full, while the numbers present on week days, though more fluctuating, are, it is presumed, about as large as might be reasonably reckoned upon. The propriety and decorum manifested on the part of those in attendance is most marked and exemplary: not only has no instance of serious interruption at any time occurred, but the general aspect of those assembled bespeaks in most a subdued self-control, and in not a few a devout and reverential sense of the solemnity of the exercises in which they are engaged. The attention in many cases is no doubt fitful, and even when arrested is not easily retained, but on the part of some an evident and touching interest is taken both in the prayers and sermon, texts and subjects are kept in their memory, and remarks and illustrations are occasionally recalled in subsequent conversation. It has been the Chaplain's aim to select such subjects as are at once simple and soothing, and fitted to draw the mind out of itself to the contemplation of the great truths and animating hopes of Divine revelation, so as at once to cheer the downcast, stimulate the sluggish, and quicken by the Divine blessing a healthy and hopeful religious sentiment in all. Nor can he doubt that such services are so far appreciated as to supply a want which would otherwise be deeply felt by those who

engage in them, and that the gentle excitement and necessary self-restraint occasioned by them, are fitted, independently of higher results, to have a wholesome effect on the tone of their mental and moral health.

In the course of his more private visitation, besides attending to the sick and such as may specially need religious counsel and sympathy, the Chaplain takes occasion to approach and converse with all the patients who, in the opinion of the Physician, are open to such intercourse. He has found this department of his duty, as may be conceived, not unattended with difficulty, and calling for no small measure of wisdom and discrimination in adapting his remarks to the very various characters and states of mind of those with whom he comes into contact. Tenderness and patience in listening to the tale of their vexations and sorrows, require to be combined with readiness and tact in leading the conversation out of the region of morbid fancies and ever-recurrent complaints into profitable and consolatory channels. Whatever may have been his success in this respect, the Chaplain is happy to believe that his visits are increasingly welcomed with pleasure, and he would trust, not altogether unaccompanied with beneficial results. He is encouraged to hope that growing familiarity with this delicate and interesting field of occupation, and a more intimate knowledge of individual peculiarities, will increase his facility in turning these valuable opportunities of intercourse to useful account.

During the past winter the usual classes of an educational nature have been in regular operation, under the same kind superintendence as formerly, viz.:—the class for the practice of sacred harmony, conducted by the Matron, on Monday evenings; the class for improvement in writing and arithmetic, conducted by the Housekeeper, on Tuesday evenings; and the Sabbath evening Bible class, under the charge of the same lady, assisted by an upper class patient. At all these classes, the attendance has continued at about its usual mark, and a gratifying degree of attention and progress has been manifested by the pupils. Near the close of the season, the Chaplain had the pleasure of examining the Bible class, and was delighted not only with the general order and decorum of the proceedings, but with the intelligent interest taken by many of the pupils in the work of the class, and the considerable familiarity with Scripture knowledge which some evinced. No happier or more appropriate method of enlivening the monotony of the Sabbath evening could have been devised, and he trusts that those who are thus engaged will feel increasingly encouraged to persevere in their benevolent labours.

The Chaplain cannot conclude this brief and necessarily meagre report, without expressing the very strong and grateful sense he enter-



tains of the uniform courtesy and kindness, as well as efficient co-operation, which he has received from the officers and attendants of the Institution, with whom he feels it a privilege to be associated in assisting to promote in any degree its noble and beneficent objects, and upon all whose efforts to this end, as well as upon his own, and those of all who seek its prosperity, he prays that the blessing of the Almighty may ever conspicuously rest.

WM. D. KNOWLES, *Chaplain.*

